US Semiconductors

2026 Year Ahead: AI still the place to be, expect choppy still cheerful year for chips

Price Objective Change

Top 6 for '26: NVDA, AVGO, LRCX, KLAC, ADI, CDNS

We see 2026 as mid-point of an 8-10 year journey of upgrading traditional IT infra for accelerated and AI workloads. Greater scrutiny of AI returns and hyperscaler cash flows could keep stocks choppy, offset by newer/faster LLM builders and AI factories serving enterprise and sovereign customers. We forecast 2026 to feature another ~30% growth towards the first $1tn for semiconductor sales, supported by nearly double-digit YoY wafer fab equipment (WFE) sales growth. Our top 6 large-cap picks focus on quality and sector leadership and include NVDA, AVGO, LRCX, KLAC, ADI and CDNS. Among SMidcaps we like CRDO, MKSI, MTSI, TER and AEIS. We update POs for our coverage.

AI: race still in early/mid stages, focus on sector leaders

Mid-age blues in AI investments, but we forecast another year of solid 50%+ YoY growth in AI semis driven by strong data center utilization, tight supply, enterprise adoption and race between LLM-builders, hyperscale and sovereign customers. Leader NVDA trading at compelling 24x/18x CY26/27E PE, half of its growth-rate, with solid pipeline and catalysts (CES, GTC tradeshows in Q1). We also like Buy-rated AVGO, AMD, CRDO.

Semicaps: unsung heroes of the revolution

We continue to like semicap equipment and forecast 10%/14% YoY growth in CY26/27E towards $131bn/$150bn, driven by fab upgrades to support high-bandwidth memory, higher layer count NAND, leading-edge logic (3nm/2nm) and advanced packaging. Semicap trading at a premium to historical multiples, but we see potential for continued EPS upgrades given consensus models bottoms-up sales growth (6-8% annual) below our top-down WFE (10%+) forecast. China restrictions remain a key factor but we assume the geopolitical situation to remain status-quo. Top picks LRCX, KLAC and AMAT, MKSI, AEIS.

Analog: unconvincing turnaround, stay selective

Lukewarm macro conditions (industrial PMI <50), declining car production, rising China competition and sluggish consumer demand keep analog investing tough. We focus on selected solid FCF (ADI), low-val'n (NXPI), Aero/Def (MTSI) and product cycles (ALGM).

EDA low-beta high quality exposure to emerging themes

CDNS remains our top pick but we also like its electronic design automation (EDA) counterpart SNPS as (relatively) lower beta, high-quality options for gaining exposure to resilient R&D in almost every silicon-levered theme. Recent acquisitions (Ansys) also enable EDA stocks to gain exposure to long-term, industrial, data center power, auto and robotics themes. EDA stocks surprisingly underperformed in '25 so due for a catch-up.

Emerging themes: Co-packaged Optics, Robotics, Quantum

Reiterate Neutral but raise PO for optical component leaders LITE and COHR, expect co-packaged optics to emerge as key enabler of high-speed 200 Gb/s+ scale-up in AI clusters. Separately, we see greater US White House push towards robotics to catch-up to China, benefitting TER. Quantum emerging opportunity with l-t implications. We lower our PO for ARM to $145 from $205 given increasing SoftBank dependence to meet near-term growth outlook, limited visibility into new CPU chipset/silicon business.

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Refer to important disclosures on page 57 to 60. Analyst Certification on page 56. Price Objective Basis/Risk on page 48. **12912919**

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Exhibit 1: 2026 key stocks in Compute, Semicap/Testing, Analog, EDA
Key stocks into 2026

	Price	PO
COMPUTE		
NVDA	$176.29	$275.00
AVGO	$339.81	$500.00
AMD	$207.58	$260.00
CRDO	$142.02	$200.00
SEMICAP/TESTING		
LRCX	$164.3	$195.00
KLAC	$1,225.11	$1,450.00
AMAT	$261.27	$300.00
TER	$194.7	$235.00
MKSI	$159.31	$200.00
AEIS	$216.87	$260.00
ANALOG		
ADI	$280.44	$320.00
NXPI	$231.83	$265.00
MTSI	$175.29	$220.00
ALGM	$26.72	$36.00
EDA		
CDNS	$318.43	$400.00
SNPS	$454.67	$560.00

Source: BofA Global Research

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2026: AI to drive choppy yet cheerful year

Yogi Berra — 'It's tough to make predictions, especially about the future.'

We remain constructive on chip stocks heading into 2026. While debates around the pace and profitability of AI investments will continue, we believe consensus under-appreciates the mission critical, offensive and defensive nature of capex investments being done by the largest and best funded tech companies. Return on investment is being delivered not just by extracting more insights about customers, but also by upgrading to more efficient (GPU/custom chip) accelerated infra from traditional CPU hardware, and protecting existing moats in search, e-commerce, social and streaming. Enterprise adoption of AI is just getting started, while sovereign (government) customers globally are keen on becoming self-sufficient in AI deployments to promote vital national security, high-tech employment, healthcare and cybersecurity sectors. Overall, despite continued volatility, we expect AI to continue to drive attractive returns across wide range of cloud, memory, optical and semicap stocks.

Looking back.. 2025 produced stellar returns despite setbacks

Semi stocks, as measured by the SOX index, have produced stellar returns thus far in 2025, despite major hits to AI sentiment from China's DeepSeek (Jan'25), Liberation Day tariffs (Apr'25) and recent AI capex concerns from AVGO and Oracle earnings. Year-to-date (YTD) the SOX index is up over 40% versus 16% rise in the broader S&P 500 (SPX) index. Returns were led by memory stocks, followed by semicaps and compute, offset by lukewarm returns among smartphone, analog and EDA stocks. Compute (NVDA, AVGO, MRVL, AMD), Semicap (AMAT, LRCX, KLAC), Analog (TXN, ADI, MCHP, NXPI and ON), EDA (CDNS, SNPS), Phones (SWKS, QRVO, QCOM, CRUS) and Memory (MU, WDC, STX).

Exhibit 2: SOX outperformed broader SPX by over 2500 points YTD (as of Dec-15-25), led by memory and compute semis
Annual performance of SOX, S&P 500 (SPX) indices along with key semi sub-sectors

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	YTD25	Avg/10yr	Avg/5yr
SOX Index	-3%	37%	38%	-8%	60%	51%	41%	-36%	65%	19%	41%	31%	26%
SPX Index	-1%	10%	19%	-6%	29%	16%	27%	-19%	24%	23%	16%	14%	14%
SOX vs SPX (bps)	(268)	2709	1881	(157)	3124	3488	1427	(1639)	4067	(404)	2516	1701	1193
Sub-Sectors													
Compute	19%	150%	43%	6%	78%	85%	80%	-45%	132%	86%	34%	65%	57%
Semicap	-9%	40%	55%	-26%	100%	49%	67%	-31%	69%	0%	90%	41%	39%
Analog	2%	30%	37%	-18%	48%	29%	42%	-15%	26%	-11%	8%	18%	10%
EDA	7%	25%	55%	1%	62%	91%	39%	-14%	65%	2%	0%	33%	19%
Smartphones	-7%	31%	11%	-21%	94%	35%	7%	-36%	23%	-8%	10%	15%	-1%
Memory	-50%	24%	38%	-28%	65%	11%	41%	-50%	66%	5%	237%	41%	60%

Source: Bloomberg, BofA Global Research

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Focus on quality growth in 2026 top picks

Our top 6 large-cap picks focus on quality and sector leadership and include NVDA, AVGO, LRCX, KLAC, ADI and CDNS. Among SMidcaps we like CRDO, MKSI, MTSI, TER and AEIS. These picks are based on the following secular and cyclical themes:

Strong yet lumpy AI capex.. on path to $1.2tn by CY30

While there will invariably be a lumpy pace of deployments given space and power constraints, top hyperscalers will maintain a strong level of investment in AI upgrades. We forecast robust capex outlook into CY26/27 (+34%/+16% YoY) despite profitability and depreciation concerns (GPU useful life 5-6 years in practice today). Scaling laws remain accelerated, with both tokens per watt and revenue per token continuing to expand 2x-15x+ gen-over-gen on new accelerators. Importantly, the launch of Blackwell-trained LLMs in early 2026 could again reshape LLM performance/rankings (led by TPUv7-trained models today) and revitalize the non-TPU camp demand throughout the year. Overall we continue to see (global) AI capex head towards $1.2Tn by CY30E.

Related, we remain constructive on global memory demand, yet Neutral on US memory stocks (**MU**). As described by our colleague Simon Woo in global memory outlook (see

report), pricing likely remains favorable throughout 2026 (DRAM +33% YoY, NAND +26%) and into early 2027, though current abnormally high spot price ($25-50 DDR4/5) could converge closer toward contract (sub-$10). 2026 industry capex outlook of up +28% YoY is a modest risk to pricing, though growing memory/HBM content in AI accelerators could help offset.

Semicaps: unsung heroes of the AI and reshoring trends

We expect semicaps to outperform in CY26 as upstream beneficiaries of capacity expansions and tech upgrades to support multi-year AI infra demand. We expect upside in C2H'26 and CY27 as visibility into capex plans and fab ramp timelines improve. Stocks currently trade at premiums, but estimates have yet to catch up to our view of $150bn WFE by CY27. Top picks **KLAC**/**LRCX** given broad-based share gain potential across foundry/logic and memory and **MKSI**/**AEIS** in SMidcap given recovering Semi Market demand, advanced packaging (MKSI) and data center power (AEIS) secular strengths.

Analog semis: stay selective as macro remains murky

Even after multiple EPS resets in CY25, we remain cautious on the analog semi space. Macro demand has not improved meaningfully evidenced by soft PMIs while Auto units are declining in CY26 with EV growth decelerating as China demand is rolling over. Most suppliers are shipping to demand and should see seasonal trends n-t but not restocking tailwinds until end demand improves. We remain selective, focusing on quality, FCF generation, and exposure to resilient AI/A&D, preferring ADI, NXPI, MTSI, ALGM.

EDA: high quality, low beta with catch-up potential

CDNS and SNPS remain a high-quality (~80% recurring revenue) and low-beta (~1.4 vs. ~1.9 coverage median in 2025) way to gain exposure to secularly rising chip complexity and resilient semis R&D spend. CDNS/SNPS possess multiple growth drivers in across EDA software, IP, hardware, and systems design. We prefer CDNS as our top EDA pick but also like SNPS following recent FY26E derisked guide and Ansys integration upside.

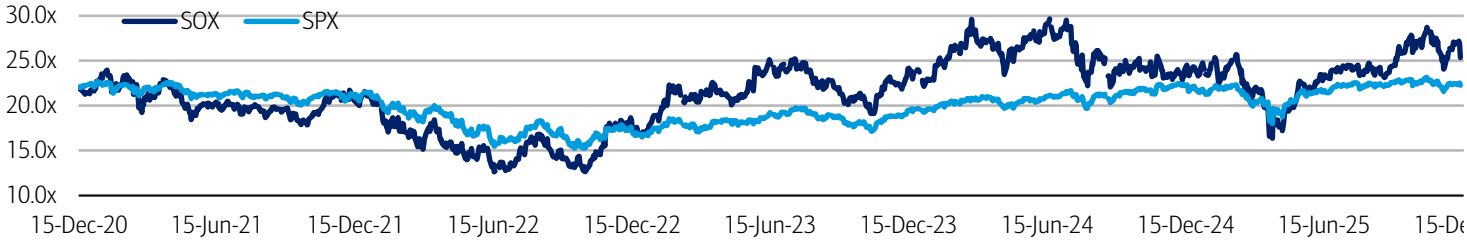
Emerging themes: Optics, Robotics, Quantum Computing

In 2026 we see the continue emergence of 1) Co-Packaged Optics (CPO), a novel networking technology for AI scale-up providing performance improvements over copper and pluggables led by AVGO/NVDA/MRVL, 2) Robotics with potential for greater U.S. White House push with TER well positioned to capitalize, and 3) Quantum Computing with public and private leaders advancing their respective platforms.

Valuation: SOX premium to SPX, though below prior peaks

The SOX index is currently trading at 25.3x forward PE, a ~ 3x turn premium to broader SPX trading at 22.2x. This is wider than historical 1.2x premium at 5-yr median for SOX 21.7x and SPX 20.6x. However, as shown below, the emergence of ChatGPT (Nov-22) has driven a widening in the SOX premium. Indeed, while SOX currently trades at a premium, its absolute level of 25.3x is below the prior ~30x peak, with the current 3x PE turn premium below the ~10x PE turn premium from 2024.

Exhibit 3: SOX index trading at 25.3x forward PE, 1.2x turn premium to SPX, wider than history but below 24 peak
Forward PE multiple for the SOX and SPX indices



Source: Bloomberg

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Rating/PO summary

We adjust POs throughout our coverage based on our new end market and segment outlook for CY26-28E. Key PO changes (>20%) include ARM (lower to $145 from $205), COHR (increase to $210 from $165), and LITE (increase to $375 from $210).

We provide detail for each PO change on pg. 39.

Exhibit 4: We adjust POs throughout our coverage based on our new end market/segment outlook for CY26 and beyond
Rating/PO Summary Table (rationale for each on pg. 39-41)

Ticker	Price (12/15/25)	PO	Old PO	Potential Upside	Current Multiple	Old Multiple
Buy						
NVDA	$176.29	$275	$275	56%	28x CY27E PE	28x CY27E PE
AVGO	$339.81	$500	$500	47%	33x CY27E PE	33x CY27E PE
CRDO	$142.02	$200	$240	41%	48x CY27E PE	70x CY26E PE
ALGM	$26.72	$36	$36	35%	28x CY27E PE	28x CY27E PE
CAMT	$109.35	$140	$128	28%	32x CY27E PE	35x CY26E PE
CDNS	$318.43	$400	$400	26%	44x CY27E PE	51x CY26E PE
MKSI	$159.31	$200	$180	26%	16x CY27E EV/EBITDA	16x CY26E EV/EBITDA
MTSI	$175.29	$220	$190	26%	44x CY27E PE	38x CY27E PE
AMD	$207.58	$260	$300	25%	27x CY27E PE	32x CY27E PE
SNPS	$454.67	$560	$560	23%	32x CY27E PE	32x CY27E PE
TER	$194.70	$235	$205	21%	35x CY27E PE	31x CY27E PE
AEIS	$216.87	$260	$225	20%	29x CY27E PE	29x CY26E PE
LRCX	$164.30	$195	$165	19%	33x CY27E PE	33x CY26E PE
KLAC	$1,225.11	$1,450	$1,400	18%	35x CY27E PE	34x CY27E PE
NVMI	$324.20	$380	$360	17%	30x CY27E PE	33x CY26E PE
ARM	$124.37	$145	$205	17%	56x CY27E PE	79x CY27E PE
AMAT	$261.27	$300	$250	15%	25x CY27E PE	25x CY26E PE
NXPI	$231.83	$265	$255	14%	20x CY27E PE	22x CY26E PE
ADI	$280.44	$320	$290	14%	28x CY27E PE	29x CY26E PE
Neutral						
ALAB	$143.66	$170	$210	18%	56x CY27E PE	69x CY27E PE
COHR	$178.45	$210	$165	18%	32x CY27E PE	28x CY26E PE
AMBQ	$27.38	$32	$35	17%	4x CY27E EV/S	5x CY27E EV/S
AMBA	$73.80	$85	$92	15%	7x CY27E EV/S	9x CY26E EV/S
MRVL	$84.26	$95	$105	13%	20x CY27E PE	22x CY27E PE
LITE	$334.69	$375	$210	12%	45x CY27E PE	30x CY26E PE
ON	$55.09	$60	$56	9%	17x CY27E PE	20x CY26E PE
MCHP	$67.18	$72	$72	7%	30x CY27E PE	30x CY27E PE
MU	$237.50	$250	$250	5%	2.6x CY27E P/B	2.6x CY27E P/B
Underperform						
GFS	$37.24	$41	$37	10%	9x CY27E EV/EBITDA	8x CY27E EV/EBITDA
INTC	$37.51	$40	$34	7%	3.5x CY27E EV/S	3.0x CY27E EV/S
SWKS	$66.37	$70	$70	5%	14x CY27E PE	16x CY26E PE
TXN	$177.97	$185	$175	4%	28x CY27E PE	30x CY26E PE
ACLS	$87.26	$90	$90	3%	15x CY27E PE	15x CY27E PE
LSCC	$76.05	$74	$62	(3%)	39x CY27E PE	33x CY27E PE

Source: BofA Global Research, Bloomberg

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Global Semis Forecast Update

We model CY26 semis/core semis (ex-memory) growth of 29%/22% YoY, led by growth in data center.

By end market, we model (1) compute and storage up 33% YoY (continued server strength); (2) wireless comms up 8% YoY (smartphone recovery); (3) auto sales up +7% on sluggish units but improving content; (4) Industrial up +12% YoY on improved end demand since 2H25; (5) consumer up 4% YoY; and (6) wired comms up 18% YoY on data center related infra buildout.

Exhibit 5: We model semis/core semis sales up +29%/+22% YoY in CY26E
Summary of BofA Semiconductor forecasts by end market

Revenue ($mn)	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	CAGR '25-28	CAGR '20-25	CAGR '15-25
Total Semis	**$418**	**$451**	**$572**	**$594**	**$528**	**$633**	**$783**	**$1,010**	**$1,154**	**$1,257**	**17.1%**	**11.7%**	**8.9%**
YoY%	(10.8%)	7.7%	27.0%	3.8%	(11.0%)	19.7%	23.7%	29.0%	14.3%	8.9%			
Memory	**$112**	**$128**	**$170**	**$150**	**$94**	**$170**	**$213**	**$315**	**$347**	**$358**	**18.9%**	**10.7%**	**10.7%**
YoY%	(28.8%)	13.5%	33.4%	(11.9%)	(37.4%)	81.3%	24.8%	48.2%	10.1%	3.1%			
Core Semis (ex-memory)	**$306**	**$323**	**$402**	**$444**	**$435**	**$463**	**$570**	**$695**	**$808**	**$900**	**16.4%**	**12.1%**	**8.3%**
YoY%	(1.6%)	5.6%	24.4%	10.5%	(2.1%)	6.4%	23.3%	21.9%	16.2%	11.4%			
Compute and Storage	**$97**	**$108**	**$128**	**$154**	**$167**	**$207**	**$303**	**$403**	**$493**	**$567**	**23.1%**	**23.0%**	**13.9%**
YoY%	(3.8%)	11.2%	19.1%	20.3%	8.4%	23.9%	46.6%	32.7%	22.5%	14.8%			
PCs	**$48**	**$56**	**$68**	**$59**	**$52**	**$57**	**$61**	**$63**	**$66**	**$69**	**4.2%**	**1.8%**	**4.2%**
YoY%	(2.3%)	16.5%	22.3%	(12.4%)	(11.8%)	9.3%	6.1%	3.2%	5.2%	4.2%			
Servers (silicon only)	**$27**	**$27**	**$32**	**$63**	**$80**	**$121**	**$214**	**$310**	**$397**	**$467**	**29.7%**	**51.0%**	**28.5%**
YoY%	1.7%	2.2%	16.9%	97.3%	27.5%	51.6%	76.3%	45.3%	27.9%	17.6%			
Wireless Communications	**$77**	**$85**	**$104**	**$111**	**$94**	**$93**	**$91**	**$99**	**$104**	**$108**	**5.7%**	**1.5%**	**3.4%**
YoY%	6.1%	11.1%	22.3%	6.8%	(15.8%)	(0.5%)	(1.7%)	7.8%	5.4%	4.0%			
Smartphone	**$64**	**$71**	**$88**	**$91**	**$77**	**$80**	**$79**	**$85**	**$90**	**$94**	**5.8%**	**2.0%**	**4.0%**
YoY%	2.2%	12.3%	23.7%	3.2%	(15.4%)	3.6%	(1.1%)	8.0%	5.4%	4.0%			
Wireless Infrastructure	**$13**	**$14**	**$16**	**$20**	**$16**	**$13**	**$13**	**$13**	**$14**	**$15**	**5.0%**	**(1.8%)**	**2.9%**
YoY%	30.5%	5.0%	14.7%	27.1%	(17.5%)	(20.0%)	(5.0%)	6.0%	5.0%	4.0%			
Automotive	**$38**	**$34**	**$46**	**$49**	**$59**	**$53**	**$51**	**$54**	**$60**	**$66**	**9.1%**	**8.2%**	**5.4%**
YoY%	(4.3%)	(9.1%)	34.6%	5.4%	22.3%	(10.3%)	(4.9%)	6.6%	11.1%	9.5%			
Global Automotive Units (mn)	**89.0**	**74.6**	**77.2**	**82.3**	**90.5**	**88.7**	**91.2**	**90.9**	**92.1**	**92.6**	**0.5%**	**4.1%**	**0.3%**
YoY%	(5.6%)	(16.1%)	3.5%	6.7%	9.9%	(2.0%)	2.8%	(0.3%)	1.4%	0.5%			
Auto semi content ($/LV) / Inv. Adj.	**$424**	**$459**	**$597**	**$590**	**$657**	**$602**	**$556**	**$595**	**$653**	**$711**	**8.5%**	**3.9%**	**5.1%**
YoY%	1.3%	8.4%	30.0%	(1.1%)	11.3%	(8.5%)	(7.5%)	7.0%	9.6%	9.0%			
Industrial & Other	**$44**	**$43**	**$54**	**$62**	**$59**	**$45**	**$50**	**$56**	**$62**	**$67**	**10.3%**	**3.1%**	**4.1%**
YoY%	(4.3%)	(2.6%)	26.5%	15.3%	(4.8%)	(24.3%)	10.8%	11.8%	10.9%	8.1%			
Automation	**$10**	**$10**	**$13**	**$15**	**$15**	**$12**	**$13**	**$13**	**$15**	**$17**	**9.6%**	**5.7%**	**6.2%**
YoY%	(4.4%)	(3.0%)	29.5%	17.0%	(1.0%)	(15.0%)	3.6%	4.1%	11.6%	13.2%			
Power/Energy	**$6**	**$6**	**$7**	**$9**	**$9**	**$8**	**$8**	**$8**	**$9**	**$9**	**4.8%**	**6.5%**	**6.8%**
YoY%	(2.4%)	(0.5%)	25.4%	22.0%	5.0%	(18.0%)	4.1%	4.1%	6.2%	4.1%			
Consumer	**$33**	**$35**	**$48**	**$48**	**$30**	**$31**	**$33**	**$34**	**$35**	**$36**	**3.3%**	**(1.3%)**	**1.1%**
YoY%	(3.6%)	6.5%	37.5%	0.1%	(37.1%)	3.4%	4.7%	3.9%	3.2%	2.7%			
TVs	**$9**	**$10**	**$14**	**$14**	**$11**	**$11**	**$11**	**$11**	**$12**	**$12**	**2.7%**	**1.4%**	**0.3%**
YoY%	(15.8%)	10.5%	37.1%	1.8%	(21.7%)	(4.0%)	2.1%	2.3%	2.8%	3.0%			
Video console SoCs (Gaming)	**$1**	**$3**	**$6**	**$7**	**$7**	**$3**	**$3**	**$3**	**$3**	**$3**	**(0.2%)**	**2.2%**	**6.5%**
YoY%	(37.1%)	102.2%	89.9%	26.2%	(4.3%)	(57.1%)	13.0%	0.7%	(0.7%)	(0.7%)			
Wired Communications	**$18**	**$18**	**$21**	**$20**	**$25**	**$33**	**$42**	**$50**	**$53**	**$56**	**10.1%**	**18.3%**	**9.8%**
YoY%	(3.1%)	1.0%	17.0%	(8.3%)	26.9%	32.8%	28.1%	18.3%	7.2%	5.3%			
Ethernet/Network switch	**$5**	**$5**	**$5**	**$6**	**$9**	**$13**	**$17**	**$21**	**$22**	**$24**	**11.2%**	**28.7%**	**12.3%**
YoY%	(15.3%)	(3.8%)	11.9%	15.0%	45.0%	40.0%	35.0%	20.0%	8.0%	6.0%			
Optical Equipment	**$4**	**$4**	**$5**	**$5**	**$6**	**$9**	**$12**	**$15**	**$16**	**$18**	**14.8%**	**22.7%**	**18.4%**
YoY%	22.4%	9.8%	11.8%	5.0%	30.0%	35.0%	35.0%	25.0%	12.0%	8.0%			

Source: BofA Global Research, Mercury Research, Gartner, Omdia, SIA

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In 2026, we see semis/core semis sales grow +29%/+22% YoY. Memory is expected to remain strong, up nearly +48% YoY (after +81%/+25% YoY growth in CY24/25E).

By device type, we see CY26 memory sales driven by both DRAM (+52% YoY) and NAND (+45% YoY). Ex-memory, microprocessors (MPUs) strong (+11% YoY) on hyperscaler consumption and Windows 11 PC refresh, and logic particularly strong (+31% YoY) on AI accelerator-related demand. We also model industrial-centric markets (MCUs, Analog) seeing recovery following inventory digestion throughout 2024 and 1H25. In CY26, we model other markets (discretes, optos, sensors) to generally return to healthy growths (+15% YoY) as well.

Exhibit 6: We model memory, logic, microcomponents driving semiconductor growth
Summary of BofA Semis Forecast by device type

Revenue ($bn)	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	CAGR '25-28	CAGR '20-25	CAGR '15-25
Total Semis	**$418**	**$451**	**$572**	**$594**	**$528**	**$633**	**$783**	**$1,010**	**$1,154**	**$1,257**	**17.1%**	**11.7%**	**8.9%**
YoY%	(10.8%)	7.7%	27.0%	3.8%	(11.0%)	19.7%	23.7%	29.0%	14.3%	8.9%			
Memory	**$112**	**$128**	**$170**	**$150**	**$94**	**$170**	**$213**	**$315**	**$347**	**$358**	**18.9%**	**10.7%**	**10.7%**
YoY%	(28.8%)	13.5%	33.4%	(11.9%)	(37.4%)	81.3%	24.8%	48.2%	10.1%	3.1%			
DRAM	**$62**	**$65**	**$92**	**$78**	**$47**	**$88**	**$129**	**$196**	**$216**	**$224**	**20.2%**	**14.6%**	
YoY%	-	4.6%	40.9%	(15.7%)	(39.1%)	85.9%	47.0%	51.5%	10.3%	3.9%			
NAND	**$46**	**$59**	**$73**	**$67**	**$42**	**$78**	**$79**	**$114**	**$125**	**$127**	**17.5%**	**6.1%**	
YoY%	-	26.4%	25.3%	(8.2%)	(36.9%)	84.0%	0.6%	45.1%	9.9%	1.7%			
Core Semis (ex-memory)	**$306**	**$323**	**$402**	**$444**	**$435**	**$463**	**$570**	**$695**	**$808**	**$900**	**16.4%**	**12.1%**	**8.3%**
YoY%	(1.6%)	5.6%	24.4%	10.5%	(2.1%)	6.4%	23.3%	21.9%	16.2%	11.4%			
Analog	**$54**	**$56**	**$74**	**$89**	**$81**	**$80**	**$87**	**$95**	**$103**	**$106**	**7.0%**	**9.2%**	**6.7%**
YoY%	(8.2%)	3.2%	33.1%	20.1%	(8.8%)	(2.0%)	8.9%	9.4%	8.8%	2.9%			
Microcomponents	**$66**	**$70**	**$81**	**$79**	**$77**	**$79**	**$85**	**$93**	**$99**	**$104**	**7.1%**	**4.0%**	**3.3%**
YoY%	(1.2%)	4.9%	15.5%	(1.5%)	(3.5%)	3.7%	6.8%	10.1%	6.2%	5.0%			
Microprocessors	**$48**	**$51**	**$56**	**$51**	**$45**	**$53**	**$59**	**$66**	**$67**	**$71**	**6.4%**	**3.0%**	**3.2%**
YoY%	3.3%	6.5%	10.4%	(9.5%)	(11.4%)	16.8%	11.9%	11.3%	1.8%	6.3%			
Microcontrollers	**$17**	**$18**	**$23**	**$27**	**$29**	**$24**	**$22**	**$25**	**$26**	**$30**	**10.0%**	**4.6%**	**3.9%**
YoY%	(10.7%)	2.4%	26.1%	20.8%	7.6%	(19.2%)	(5.5%)	11.7%	6.1%	12.4%			
Logic	**$107**	**$118**	**$154**	**$176**	**$178**	**$213**	**$301**	**$395**	**$484**	**$559**	**22.9%**	**20.5%**	**12.7%**
YoY%	(2.5%)	11.1%	30.2%	14.2%	1.4%	19.1%	41.7%	31.0%	22.7%	15.5%			
Others (Discretes, optos, sensors)	**$79**	**$79**	**$93**	**$100**	**$98**	**$91**	**$98**	**$112**	**$121**	**$130**	**10.0%**	**4.3%**	**4.9%**
YoY%	4.6%	0.3%	17.4%	7.1%	(1.2%)	(7.5%)	7.5%	14.8%	8.0%	7.4%			

Source: BofA Global Research, Mercury Research, Gartner, Omdia, SIA

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Looking at our forecasts versus BofA Global semis bottom-up estimates, we are generally in line with the growth trajectory for CY26E/CY27E ex-NVDA (which now realizes significant revenue from system sales growth and software). Modest outperformance versus industry reflects continued industry trends of industry consolidation and share gains by top vendors.

Exhibit 7: Our Semis industry outlook generally aligns with bottoms-up company estimates
Summary of BofA semis forecasts versus bottoms-up estimates

Semis ex-mem Forecast ($bn)	2024	2025E	2026E	2027E	2028E
BofA Semi Ex-Memory Forecast	$463	$570	$695	$808	$900
YoY (%)	*6.4%*	*23.3%*	*21.9%*	*16.2%*	*11.4%*
BofA Coverage Bottoms-Up Sales	$425	$532	$693	$855	$989
YoY (%)	*17.4%*	*25.2%*	*30.3%*	*23.3%*	*15.8%*
BofA Coverage Bottoms-Up Ex-NVDA Sales	$294	$319	$373	$441	$503
YoY (%)	*(2.2%)*	*8.4%*	*17.0%*	*18.1%*	*14.1%*

Source: BofA Global Research estimates, SIA, company reports

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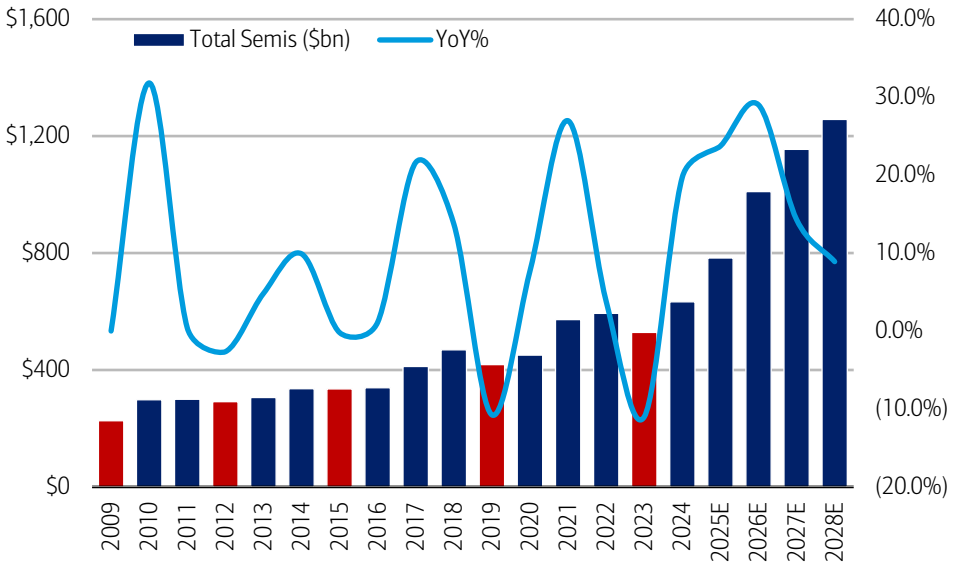
Semis Upcycles vs. Downcycles

Semis upcycles (global semis sales rising YoY) have typically lasted 2.4 years on average, while semis downcycles (global semis sales declining YoY) have typically lasted 1.0 year on average. The current upcycle began in Sep'2023 and we're already ~2.3 years in, but we flag upcycle for Semis ex-AI (traditional memory, analog, etc.) hasn't really begun until 4Q25, which could suggest further upside throughout CY26E.

Exhibit 8: There have been semis downcycle every 2-4 years, the last one in 2023
Total Semis Sales Estimate ($bn)



Source: BofA Global Research estimates, SIA

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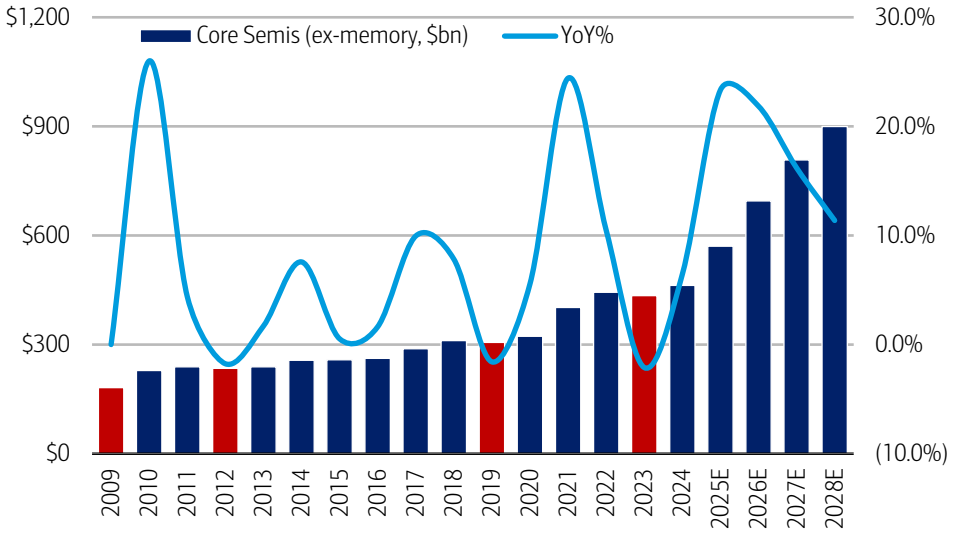
Exhibit 9: Similarly, there have been core semis downcycle every 3-4 years, the last one in 2023
Core Semis (ex-memory) Sales Estimate ($bn)



Source: BofA Global Research estimates, SIA

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Wafer Fab Equipment (WFE) Update

We raise our Wafer Fab Equipment (WFE) estimates from $117.8bn (+11.8% YoY)/$127.9bn (+8.6% YoY)/$137.5bn (+7.5% YoY) in CY25-27E to $119.7bn (+13.7% YoY)/$131.3bn (+9.7% YoY)/$150.0bn (+14.3% YoY). We also issue an estimate for CY28 WFE at $155.2bn (+3.4% YoY).

Our new estimates imply a 9% CAGR for WFE CY25-28E. Our upward revisions mostly come from memory, up +18% YoY in CY26E and growing 9.4% CAGR CY25-28E, where we raised our DRAM WFE view to $36bn (+20% YoY)/$39.1bn (+7.5% YoY) in CY26/27E following recent MU comments on capex hikes and expectations of capacity expansions for HBM and leading-edge DDR5. We also increase our Foundry estimates to $68.1bn (+10% YoY) and $81.7bn (+20%) in CY26/27 on leading-edge strength and greater visibility into sub-5nm capacity expansions.

Exhibit 10: We estimate WFE of $131.3bn in CY26E, +9.7% YoY, and $150bn in CY27E, +14% YoY
Wafer Fab Equipment (WFE) outlook

												CAGR		
	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	'25E-'28E	'19-'25	'15-'25
Wafer Fab Equipment (WFE) ($bn)	**$55.2**	**$52.2**	**$61.1**	**$87.8**	**$95.2**	**$97.9**	**$105.3**	**$119.7**	**$131.3**	**$150.0**	**$155.2**	**9.0%**	**14.8%**	**14.6%**
YoY	15.8%	(5.4%)	17.1%	43.6%	8.4%	2.9%	7.6%	13.7%	9.7%	14.3%	3.4%			
Memory WFE ($bn)	**$35.9**	**$20.4**	**$23.8**	**$35.1**	**$34.4**	**$27.4**	**$34.8**	**$42.3**	**$49.9**	**$53.9**	**$55.3**	9.4%	12.9%	10.5%
YoY	34.4%	(43.3%)	17.1%	47.3%	(1.9%)	(20.4%)	26.8%	21.6%	18.1%	8.0%	2.6%			
Memory sales ($bn)	$158.0	$112.5	$127.7	$170.3	$150.0	$94.0	$170.3	$212.5	$315.0	$346.7	$357.6			
Memory WFE capital intensity (% of sales)	23%	18%	19%	21%	23%	29%	20%	20%	16%	16%	15%			
Memory capex ($bn)	$53.9	$45.1	$40.5	$52.3	$59.6	$40.7	$57.7	$73.7	$91.2	$94.5	$100.5			
DRAM WFE ($bn)	**$12.4**	**$9.2**	**$9.9**	**$15.3**	**$14.0**	**$20.0**	**$27.8**	**$30.3**	**$36.4**	**$39.1**	**$40.3**	9.9%	21.9%	12.6%
YoY	42.6%	(25.4%)	7.2%	54.6%	(8.6%)	42.9%	39.0%	9.0%	20.0%	7.5%	3.0%			
DRAM sales ($bn)	$72.8	$62.5	$65.4	$92.1	$77.7	$47.3	$87.9	$129.2	$195.8	$215.9	$224.2			
DRAM WFE capital intensity (% of sales)	20%	15%	15%	17%	18%	42%	32%	23%	19%	18%	18%			
DRAM capex ($bn)	$18.4	$18.1	$15.9	$23.4	$26.9	$22.8	$37.4	$51.9	$66.8	$66.6	$71.1			
NAND WFE ($bn)	**$23.0**	**$10.8**	**$13.7**	**$19.5**	**$19.3**	**$6.7**	**$6.5**	**$11.4**	**$13.1**	**$14.4**	**$14.7**	8.9%	0.8%	6.4%
YoY	30.5%	(52.8%)	26.1%	42.5%	(0.8%)	(65.5%)	(2.2%)	75.0%	15.0%	10.0%	2.0%			
NAND sales ($bn)	$47.2	$46.3	$58.5	$73.3	$67.3	$42.4	$78.1	$78.5	$113.9	$125.1	$127.3			
NAND WFE capital intensity (% of sales)	50%	23%	23%	27%	29%	16%	8%	15%	12%	12%	12%			
NAND capex ($bn)	$32.2	$24.1	$21.5	$28.5	$32.2	$17.6	$19.7	$20.9	$23.6	$27.2	$28.7			
Other Memory WFE ($bn)	**$0.5**	**$0.3**	**$0.3**	**$0.3**	**$1.1**	**$0.7**	**$0.4**	**$0.6**	**$0.5**	**$0.4**	**$0.4**	(13.5%)	12.6%	8.7%
YoY	26.9%	(46.4%)	(6.9%)	25.2%	248.5%	(34.7%)	(40.8%)	30.0%	(20.0%)	(10.0%)	(10.0%)			
Other Memory sales ($bn)	$49.2	$3.7	$3.8	$4.9	$5.0	$4.2	$4.3	$4.8	$5.3	$5.7	$6.1			
Other Memory WFE intensity (% of sales)	1%	8%	7%	7%	22%	17%	10%	12%	9%	7%	6%			
Other Memory capex ($bn)	$3.2	$2.9	$3.1	$0.5	$0.4	$0.3	$0.6	$0.9	$0.8	$0.7	$0.7			
Non-memory WFE ($bn)	**$19.3**	**$31.9**	**$37.3**	**$52.7**	**$61.2**	**$70.5**	**$70.6**	**$77.5**	**$81.4**	**$96.1**	**$99.8**	8.8%	16.0%	17.8%
YoY	(7.9%)	64.8%	17.1%	41.3%	16.2%	15.1%	0.1%	9.8%	5.0%	18.1%	3.8%			
Non-memory semis (excl. Foundry) sales ($bn)	$310.8	$305.9	$322.9	$401.8	$443.9	$434.5	$462.5	$570.4	$695.1	$807.7	$899.5			
Non-memory WFE capital intensity (% of sales)	6%	10%	12%	13%	14%	16%	15%	14%	12%	12%	11%			
Non-memory capex ($bn)	$49.2	$54.3	$69.8	$100.3	$123.0	$131.6	$109.7	$113.6	$122.1	$127.5	$133.5			
Foundry WFE ($bn)	**$11.1**	**$19.3**	**$23.8**	**$36.9**	**$42.6**	**$50.6**	**$50.3**	**$61.9**	**$68.1**	**$81.7**	**$84.9**	11.1%	21.5%	19.8%
YoY	(19.0%)	73.3%	23.7%	54.7%	15.6%	18.8%	(0.6%)	23.0%	10.0%	20.0%	4.0%			
Foundry sales ($bn)	$63.4	$66.5	$76.3	$100.7	$130.5	$114.7	$137.6	$171.3	$195.1	$216.8	$242.6			
Foundry WFE capital intensity (% of sales)	18%	29%	31%	37%	33%	44%	37%	36%	35%	38%	35%			
Foundry capex ($bn)	$21.0	$24.2	$34.2	$51.0	$64.9	$58.8	$64.1	$79.4	$93.0	$96.4	$101.9			
Logic/Intel WFE ($bn)	**$5.3**	**$9.1**	**$9.6**	**$10.3**	**$12.2**	**$12.0**	**$13.2**	**$9.2**	**$7.9**	**$8.2**	**$8.4**	(3.1%)	0.3%	12.8%
YoY	19.0%	71.8%	6.2%	6.4%	18.5%	(1.2%)	9.8%	(30.0%)	(15.0%)	4.0%	3.0%			
Logic/Intel sales ($bn)	$156.2	$154.5	$170.2	$212.2	$227.1	$224.0	$266.8	$361.1	$460.8	$632.1	$0.3			
Logic/Intel WFE capital intensity (% of sales)	3%	6%	6%	5%	5%	5%	5%	3%	2%	1%	2,833%			
Logic/Intel capex ($bn)	$11.7	$15.7	$13.8	$18.7	$24.8	$25.8	$25.1	$18.0	$15.2	$15.2	$15.2			
IDM/Other WFE ($bn)	**$2.9**	**$3.5**	**$3.8**	**$5.6**	**$6.5**	**$7.8**	**$7.1**	**$6.4**	**$5.5**	**$6.3**	**$6.5**	0.6%	10.4%	11.6%
YoY	3.4%	20.2%	8.7%	45.3%	16.4%	21.2%	(9.8%)	(10.0%)	(14.0%)	15.0%	3.0%			
IDM/Other sales ($bn)	$154.6	$151.4	$152.7	$189.5	$216.8	$210.5	$195.7	$209.3	$234.3	$175.53	$899.24			
IDM/Other WFE capital intensity (% of sales)	2%	2%	3%	3%	3%	4%	4%	3%	2%	4%	1%			
IDM/Other capex ($bn)	$16.5	$14.4	$21.8	$30.7	$33.2	$47.0	$20.5	$16.2	$14.0	$15.9	$16.4			

Source: BofA Global Research estimates, SIA, IMF, Gartner

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Leading-edge, non-China, and EUV driving future growth

We expect leading-edge WFE (sub-22nm) to grow 17% CAGR CY25-28E with large growth years in CY26/27 as TSMC seems likely to raise capex and sub-5nm investments broaden across the foundry/IDM ecosystem (Samsung, INTC, Rapidus) to support AI/HPC demand. Relatedly, we expect much of this growth to benefit EUV growing at 20.3% CAGR. In contrast to CY22-25E, we expect a geo mix shift from China to non-China as reshoring projects around the world ramp up, fueling a 14% CY25-28E CAGR, while China WFE declines -2% CAGR with CY26 expected to be a digestion year.

Exhibit 11: Breakdown of WFE estimates by trailing-edge vs. leading-edge, non-litho, China vs. non-China spending
We expect CY25E to likely be a strong year for leading-edge and non-China WFE

WFE ($bn)	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	'25-'28E	'20-'25E
Total WFE	**52.2**	**61.1**	**87.8**	**95.7**	**97.9**	**105.3**	**119.7**	**131.3**	**150.0**	**155.2**	**9.0%**	**14.4%**
YoY	**(5.4%)**	**17.1%**	**43.6%**	**9.0%**	**2.3%**	**7.6%**	**13.7%**	**9.7%**	**14.3%**	**3.4%**		
Memory	**20.4**	**23.8**	**35.1**	**34.4**	**27.4**	**34.8**	**42.3**	**49.9**	**53.9**	**55.3**	**9.4%**	**12.1%**
YoY	(43.3%)	17.1%	47.3%	(1.9%)	(20.4%)	26.8%	21.6%	18.1%	8.0%	2.6%		
% of total WFE	39.0%	39.0%	40.0%	36.0%	28.0%	33.0%	35.3%	38.0%	35.9%	35.7%		
Foundry/Logic/IDM	**31.9**	**37.3**	**52.7**	**61.2**	**70.5**	**70.6**	**77.5**	**81.4**	**96.1**	**99.8**	**8.8%**	**15.7%**
YoY	64.8%	17.1%	41.3%	16.2%	15.1%	0.1%	9.8%	5.0%	18.1%	3.8%		
% of total WFE	61.0%	61.0%	60.0%	64.0%	72.0%	67.0%	64.7%	62.0%	64.1%	64.3%		
% of F/L capex	58.6%	53.4%	52.5%	49.8%	53.6%	64.3%	68.2%	66.6%	75.4%	74.8%		
Leading-edge (<=22nm)	**14.4**	**17.3**	**26.3**	**30.9**	**38.3**	**31.4**	**39.3**	**48.0**	**59.9**	**62.9**	**17.0%**	**17.8%**
YoY	53.4%	20.6%	52.2%	17.4%	24.0%	(18.0%)	25.0%	22.0%	25.0%	5.0%		
% of total WFE	27.5%	28.3%	30.0%	32.3%	39.2%	29.9%	32.8%	36.5%	39.9%	40.6%		
Trailing-edge (>22nm)	**17.5**	**20.0**	**26.3**	**30.3**	**32.1**	**39.1**	**38.2**	**33.4**	**36.2**	**36.9**	**(1.1%)**	**13.8%**
YoY	75.5%	14.2%	31.8%	15.1%	6.0%	21.7%	(2.4%)	(12.4%)	8.2%	1.9%		
% of total WFE	33.5%	32.7%	30.0%	31.7%	32.8%	37.1%	31.9%	25.5%	24.1%	23.8%		
EUV	**3.1**	**5.1**	**7.4**	**7.5**	**10.1**	**9.0**	**13.3**	**16.5**	**21.0**	**23.2**	**20.3%**	**21.1%**
YoY	39.8%	64.7%	44.5%	0.6%	35.5%	-10.4%	47.5%	23.9%	27.1%	10.6%		
% of total WFE	6.0%	8.4%	8.4%	7.8%	10.3%	8.6%	11.1%	12.6%	14.0%	15.0%		
China	**11.5**	**15.5**	**21.4**	**21.6**	**31.7**	**38.1**	**40.1**	**35.5**	**36.0**	**37.2**	**(2.4%)**	**21.0%**
YoY	18.0%	34.1%	38.6%	0.6%	47.2%	20.0%	5.3%	(11.6%)	1.6%	3.4%		
% of total WFE	22.1%	25.3%	24.4%	22.5%	32.4%	36.2%	33.5%	27.0%	24.0%	24.0%		
Total Non-China	**40.7**	**45.7**	**66.4**	**74.1**	**66.1**	**67.2**	**79.6**	**95.9**	**114.0**	**117.9**	**14.0%**	**11.8%**
YoY	(10.5%)	12.2%	45.3%	11.7%	(10.8%)	1.6%	18.5%	20.4%	19.0%	3.4%		
% of total WFE	77.9%	74.7%	75.6%	77.5%	67.6%	63.8%	66.5%	73.0%	76.0%	76.0%		

Source: BofA Global Research estimates, company data, Gartner, SIA, IMF

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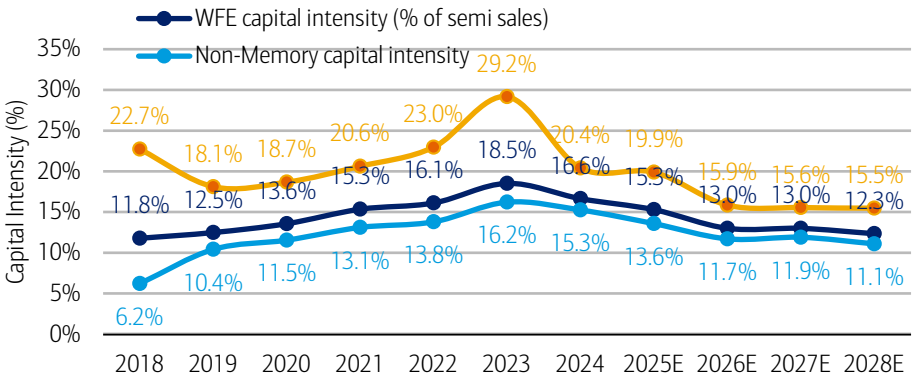
Capital intensity declining to decade-lows

Exhibit 12: WFE capital intensity declining to 12-13% CY26-28E
WFE capital intensity



Source: BofA Global Research estimates, company data, Gartner, SIA, IMF

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AI 2030 TAM Outlook Update

Of the overall global IT spend of ~$5.5tn today, we believe **data center systems** to represent $427bn across both AI and non-AI. By CY30, we expect TAM to grow toward $1.4Tn+, growing at +27% CAGR CY25-30 and outpacing overall IT spend at +8% CAGR.

For **AI data center systems** specifically, we see TAM growing to $1.2Tn+ by CY30 from $243bn in CY25, with AI servers representing ~80% of TAM at $966bn, followed by networking at ~15% of TAM at $178bn, and storage at ~5% of TAM at $57bn.

- Within AI servers, we see **AI accelerators** to represent ~$900bn TAM by CY30 from just $120bn in CY24 and $188bn in CY25, or the vast majority of server spend.

For **non-AI data center systems**, we see TAM to remain generally flattish over time.

Exhibit 13: We see AI Data Center Systems TAM to reach $1.2Tn+ by CY30, +38% CAGR, with AI accelerators representing ~$900bn within that
Data Center Systems TAM Breakout – AI vs. non-AI

TAM ($bn)	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	CAGR '25-'30
Overall IT Spend (1)	**$4,594.2**	**$4,693.0**	**$5,038.7**	**$5,540.4**	**$6,084.1**	**$6,554.0**	**$7,062.8**	**$7,597.3**	**$8,205.1**	**8%**
Data Center Systems TAM ($bn) (2)	**$227.1**	**$237.6**	**$333.5**	**$427.1**	**$617.9**	**$815.8**	**$1,014.3**	**$1,230.6**	**$1,404.7**	**27%**
YoY (%)		5%	40%	28%	45%	32%	24%	21%	14%	
AI Data Center Systems TAM ($bn)	**$21.5**	**$61.2**	**$156.3**	**$243.2**	**$414.7**	**$608.0**	**$803.9**	**$1,026.5**	**$1,200.6**	**38%**
YoY (%)		185%	155%	56%	70%	47%	32%	28%	17%	
AI % of Overall IT Spend (1)	0.5%	1.3%	3.1%	4.4%	6.8%	9.3%	11.4%	13.5%	14.6%	
AI % of Data Center Systems TAM (2)	9.5%	25.8%	46.9%	57.0%	67.1%	74.5%	79.3%	83.4%	85.5%	
AI Servers	**$17.6**	**$50.3**	**$133.1**	**$209.3**	**$355.6**	**$513.5**	**$667.8**	**$838.9**	**$965.8**	**36%**
AI CPUs	$2.4	$2.9	$6.5	$11.2	$19.4	$22.8	$28.2	$34.2	$40.5	29%
AI Accelerators	**$14.3**	**$45.0**	**$120.2**	**$188.1**	**$319.9**	**$468.1**	**$611.5**	**$770.9**	**$888.2**	**36%**
HBM	$1.6	$4.2	$17.4	$34.5	$54.6	$76.5	$91.7	$107.9	$124.3	29%
HBM (% of Accelerators)	*11%*	*9%*	*14%*	*18%*	*17%*	*16%*	*15%*	*14%*	*14%*	
Other (DDR/SSD/motherboard/power/etc.)	$0.8	$2.4	$6.3	$10.0	$16.3	$22.6	$28.1	$33.8	$37.1	30%
AI Networking	**$2.8**	**$7.7**	**$15.1**	**$21.2**	**$38.4**	**$65.5**	**$97.8**	**$138.8**	**$177.6**	**53%**
AI Switching (Back/Front-End)	$0.8	$1.0	$3.9	$8.5	$15.4	$27.5	$43.0	$63.8	$85.3	59%
AI SmartNIC	$0.9	$2.0	$3.3	$4.8	$7.7	$12.5	$17.6	$23.6	$30.2	45%
AI Connectivity/Other Networking	$1.1	$4.6	$7.9	$8.0	$15.4	$25.6	$37.2	$51.3	$62.2	51%
AI Storage	**$1.1**	**$3.2**	**$8.2**	**$12.7**	**$20.7**	**$29.0**	**$38.3**	**$48.9**	**$57.2**	**35%**
Non-AI Data Center TAM ($bn)	**$205.6**	**$176.3**	**$177.1**	**$183.9**	**$203.3**	**$207.8**	**$210.3**	**$204.0**	**$204.0**	**2%**
YoY (%)		-14%	0%	4%	11%	2%	1%	-3%	0%	

Source: BofA Global Research estimates, Gartner, Mercury Research, IDC, LightCounting, 650 Group

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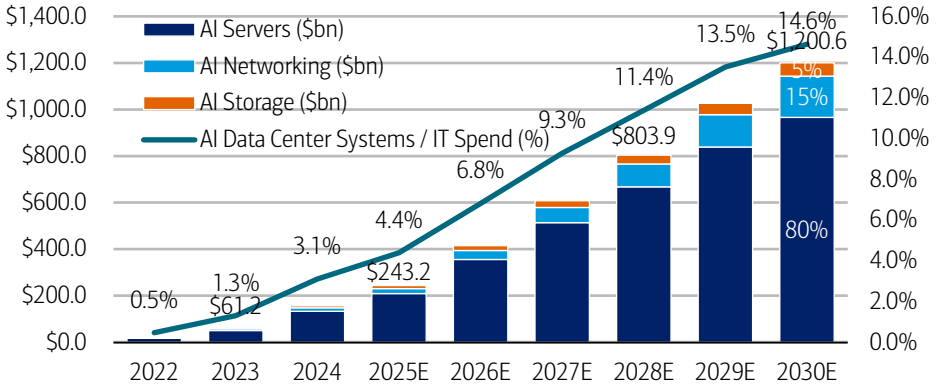
Exhibit 14: We expect AI DC TAM to reach ~15% of total global IT spend by CY30 vs. ~1% in CY23
AI Data Center Systems TAM, Breakout, % of total IT Spend



Source: BofA Global Research estimates, Gartner, Mercury Research, IDC, LightCounting, 650 Group

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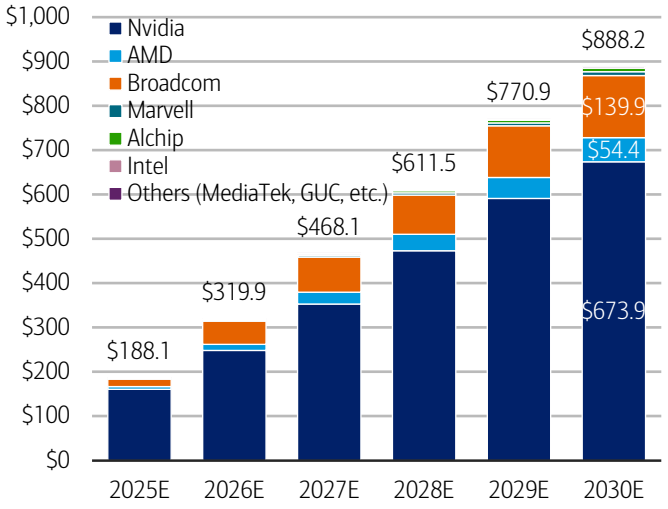
Content & GW Analysis

Below, we highlight CY30E AI accelerator TAM outlook of ~$890bn by each vendor: 1) sales power, 2) accelerator content per GW (excluding CPU, networking, etc.), and 3) # of GWs potentially deployed.

Overall, we see $33bn of potential NVDA GPU content/GW by CY30E (~$40bn with CPU, networking, etc.) with AMD/AVGO accelerator potential content of ~$20-23bn/GW ($23-25bn with CPU/networking).

Exhibit 15: We see NVDA GPU sales potential power of $674bn in CY30E, across ~20GW of capacity at ~$33bn per GW (excl. networking)
AI Buildout Outlook by Accelerator Sales Potential ($bn)



Source: BofA Global Research estimates

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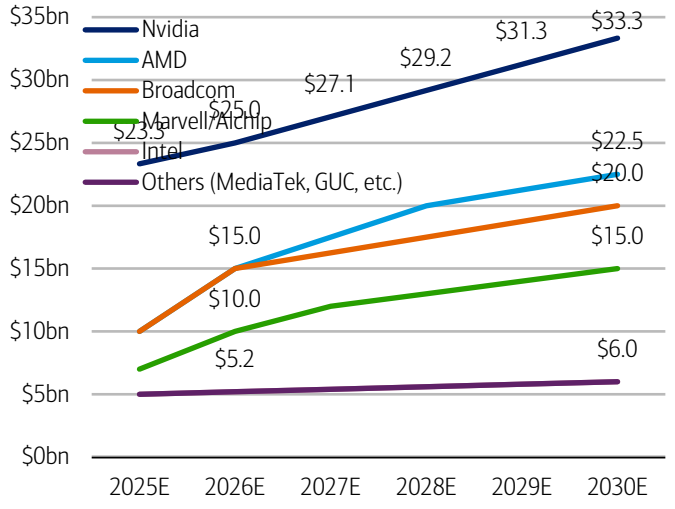
Exhibit 16: We estimate NVDA GPU content per GW (excl. CPU, networking) to reach $33bn, AMD $22.5bn, AVGO $20bn, MRVL $15bn
Accelerator Content per GW



Source: BofA Global Research estimates

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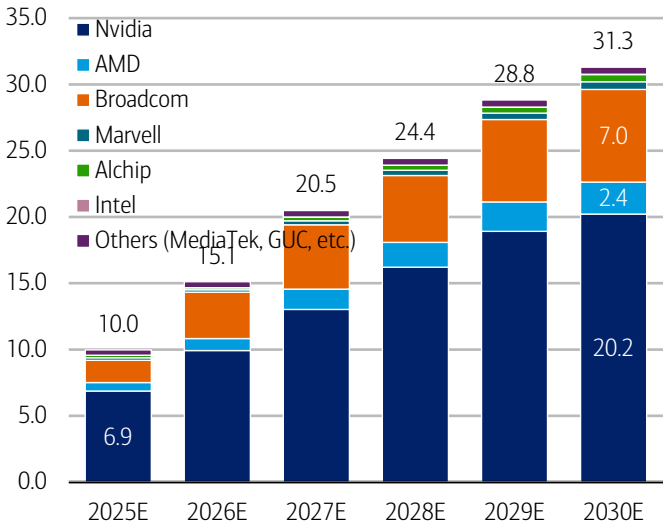
We estimate NVDA installs ~78GW of cumulative DC capacity between CY26-30E, AMD ~9GW, and AVGO ~27GW.

Exhibit 17: We estimate NVDA to install ~20GW of DC capacity in CY30E vs. AMD ~2.4GW and AVGO ~7GW
AI Buildout Outlook by Infra Capacity (GW)



Source: BofA Global Research estimates

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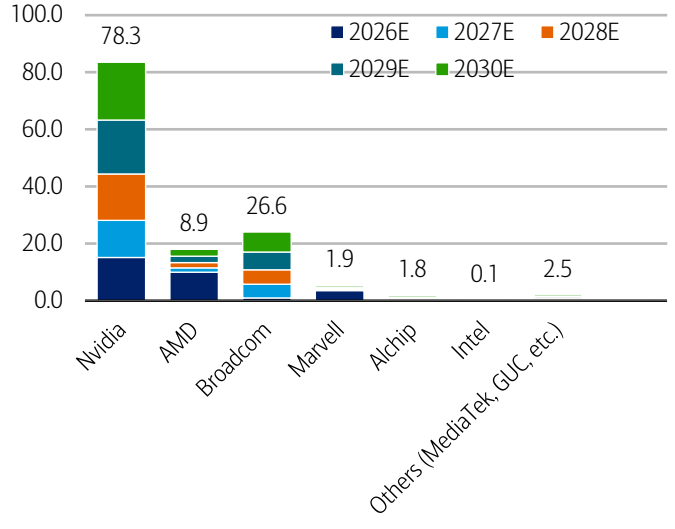
Exhibit 18: We estimate NVDA to install ~78GW of cumulative DC capacity between CY26-30E vs. AMD ~9GW and AVGO ~27GW
Total Infra Capacity Buildout Outlook CY26-30E (GW)



Source: BofA Global Research estimates

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Exhibit 19: We see NVDA to generally maintain 75-80%+ AI accelerator share over time
AI accelerator (GPU/ASIC/XPU) potential sales power by vendor

AI Accelerator Sales Power	CY24	CY25E	CY26E	CY27E	CY28E	CY29E	CY30E
Nvidia ($bn)	**$102.2**	**$160.3**	**$248.2**	**$352.9**	**$472.9**	**$591.1**	**$673.9**
YoY		57%	55%	42%	34%	25%	14%
Implied Share	85%	85%	78%	75%	77%	77%	76%
AMD ($bn)	**$5.0**	**$6.4**	**$13.5**	**$26.8**	**$37.3**	**$47.1**	**$54.4**
YoY		28%	112%	98%	39%	26%	15%
Implied Share	4%	3%	4%	6%	6%	6%	6%
Broadcom ($bn)	**$9.3**	**$16.7**	**$52.6**	**$78.9**	**$88.3**	**$116.6**	**$139.9**
YoY		81%	214%	50%	12%	32%	20%
Implied Share	8%	9%	16%	17%	14%	15%	16%
Marvell ($bn)	**$0.7**	**$1.4**	**$1.8**	**$3.6**	**$5.2**	**$6.7**	**$8.7**
YoY		100%	24%	106%	44%	29%	29%
Implied Share	1%	1%	1%	1%	1%	1%	1%
Others/TBD ($bn)	**$3.1**	**$3.3**	**$3.9**	**$6.0**	**$7.8**	**$9.4**	**$11.4**
YoY		7%	18%	53%	29%	22%	21%
Implied Share	3%	2%	1%	1%	1%	1%	1%
Total Market ($bn)	**$120.2**	**$188.1**	**$319.9**	**$468.1**	**$611.5**	**$770.9**	**$888.2**
YoY		56%	70%	46%	31%	26%	15%

Source: BofA Global Research estimates

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What to watch.. when to expect AI bubble to burst?

Large-scale infra rollouts inherently carry some risk of overbuilding. It's challenging to perfectly match capacity to future demand, and there's often an arms race to build and protect existing moats (search, social, e-commerce) or establish new revenue streams. We discuss four potential metrics to gauge whether the current AI buildout is a "bubble": 1) AI capacity utilization (anecdotal), 2) Cloud capex intentions, 3) Valuations of AI stock leaders, and 4) Financing environment, especially US Fed rates direction.

Different this time: no dark fiber, no rate rise, valuation lower

Four key differences between ongoing AI build, and prior dotcom bust: 1) No "dark compute." High utilization of AI computing power (CSP constantly seeking capacity, high util of 3+ yr. old NVDA Hopper) structurally different from the underused "dark fiber" of the Mar'2000 dotcom bust. AI adoption frictionless as no last mile upgrades required, OpenAI will reach 1bn users in ~3yrs compared to 8/13yrs. required by Facebook/Google. 2) Capex intentions of top CSP solidly on track, supported by operating cash flows (25% capex intensity vs. by 30%+ average cash flow from operations) unlike debt-driven financing during dotcom days. 3) US Fed more likely to lower than raise rates, recall prior market crashes (incl. Mar'00, Global Fin Crisis) coincided with rising interest-rates. 4) Valuation of top AI leader NVDA (18x CY27 PE, well below EPS growth-rate) starkly different from 100x+ PE of dotcom leaders (such as Cisco, Nortel, Yahoo).

Power, space considerations will likely limit overbuild

Practical considerations (power, data center space, water) will be a bigger limiter to AI infra build than the desires/prognostications of disruptive AI companies, in our view. None of the AI chip stocks are reflecting anything even remotely close to the $3-4 trillion in NVDA's CY30 data center TAM (CY30 consensus/our sales for NVDA are only ~20% of that TAM at ~$800bn), much less the $12 trillion+ implied by OpenAI's more ambitious 250 GW by CY2033 rollout ambitions. While OpenAI is the most disruptive of AI customers, we believe it will be one of multiple CSP ecosystems that are all vying for the same resources - power, space, water, and often leading-edge chips and developer attention - which in our opinion will likely pace AI buildouts.

Theme 1: Data Center/AI Capex

The current state of LLMs and AI accelerators

In Exhibit 20 below, we show the latest AI large language models available for general availability, as well as their AI accelerators used for training, ranked by their GPQA (reasoning) abilities.

Gemini 3 may be the best for now

Notably, Google's Gemini 3 Pro trained on AVGO/Google's latest TPUv7 Ironwood ranks the highest with 91.90% GPQA (reasoning) score, alongside a relatively high 76.20% SWE (coding) score. Gemini 3 also excels in token generation cost at just $2 input/mn tokens and $12 output/mn tokens for the Pro version, comparing favorably against Grok-4 Heavy's $3/$15 input/output.

But that may soon change with Blackwell-trained LLMs

However, we flag all the major GPU-based models in the market today were trained on older generation Nvidia Hopper GPU from 2022 and 2023. Only Grok-4 was trained on a mix of H100 (150k), H200 (50k), and B200/GB200 (30k) GPUs in xAI's Colossus cluster.

Given NVDA's Blackwell (B200/GB200) from 2022 delivers 10-15x faster MOE inferencing and ~2.5x faster training vs. prior-gen Hopper just from the chip itself (with up to 2x further improvement from software optimization), we expect any **Blackwell-trained LLMs to rewrite the reasoning/coding benchmarks** once broadly available in early 2026 (such as xAI Grok-5, OpenAI GPT-6, etc.).

As such we believe the frequent comparison of models trained on the TPUv7 (2025) and models trained on Hopper GPUs (2022/2023) is somewhat misleading, and the launch of Blackwell-based models is likely to re-invigorate the AI market, particularly the non-TPU/GOOGL camp, with much improved reasoning/coding performances as well as lower input/output token generation costs.

Note the exhibit below excludes the latest GPT-5.2 since benchmarks are not yet available at the time of writing, and also excludes some model versions such as "Simple" or "Think" versions for simplicity purposes.

Exhibit 20: Google Gemini 3 Pro, trained on the latest TPUv7 Ironwood ranks the highest in reasoning benchmark today. Note however that LLMs trained on Nvidia Blackwell GPUs (GB200/GB300) are yet to be launched for general availability
LLM Ranking based on GPQA (reasoning) and SWE-bench (coding), with duplicates removed for simplicity

Rank	Publisher	Model	Launch Date	Trained On	GPQA	SWE-bench	Input $/mn	Output $/mn
1	Google	Gemini 3 Pro	2025-11	Google TPUv7 Ironwood (2025)	91.90%	76.20%	$2.00	$12.00
2	xAI	Grok-4 Heavy	2025-07	Nvidia H100 (2022), H200 (2023), B200 (2024)	88.40%	—	$3.00	$15.00
5	OpenAI	GPT-5.1	2025-11	Nvidia H100 (2022), H200 (2023)	88.10%	76.30%	$1.25	$10.00
7	Anthropic	Claude Opus 4.5	2025-11	Google TPUv7 Ironwood (2025)	87.00%	80.90%	$5.00	$25.00
8	Google	Gemini 2.5 Pro Preview 06-05	2025-06	Google TPUv6 Trillium (2024)	86.40%	67.20%	$1.25	$10.00
9	OpenAI	GPT-5	2025-08	Nvidia H100 (2022), H200 (2023)	85.70%	74.90%	$1.25	$10.00
11	Anthropic	Claude 3.7 Sonnet	2025-02	Nvidia H100 (2022), H200 (2023)	84.80%	70.30%	$3.00	$15.00
12	xAI	Grok-3	2025-02	Nvidia H100 (2022)	84.60%	—	$3.00	$15.00
13	Moonshot AI	Kimi K2-Thinking-0905	2025-07	Nvidia H800 (2023), Huawei Ascend 910C (2025)	84.50%	71.30%	$0.47	$2.00
14	xAI	Grok-3 Mini	2025-02	Nvidia H100 (2022)	84.00%	—	$0.30	$0.50
15	Anthropic	Claude Sonnet 4.5	2025-09	Nvidia H100 (2022), H200 (2023)	83.40%	—	$3.00	$15.00
16	OpenAI	o3	2025-04	Nvidia H100 (2022), H200 (2023)	83.30%	69.10%	$2.00	$8.00
20	OpenAI	o4-mini	2025-04	Nvidia H100 (2022), H200 (2023)	81.40%	68.10%	$1.10	$4.40
21	Alibaba Cloud	Qwen3-235B-A22B-Thinking-2507	2025-07	Nvidia H800 (2023)	81.10%	—	$0.30	$3.00
22	DeepSeek	DeepSeek-R1-0528	2025-05	Nvidia H800 (2023)	81.00%	44.60%	$0.50	$2.15
23	Zhipu AI	GLM-4.6	2025-09	Nvidia H800 (2023)	81.00%	68.00%	$0.60	$2.00

Source: BofA Global Research estimates, LLM-Stats

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The profitability/depreciation concern

There have recently been increasing investor concerns around extending the depreciation schedules (useful life) of AI infra assets at hyperscalers/CSPs. For instance, cloud vendors have increased the depreciation schedule of IT hardware assets from 3-4 years historically to now commonly 4-6 years as seen in the Exhibit below.

With such elongated depreciation schedules, there are concerns CSPs are artificially inflating profits and justifying their heavy IT equipment (such as servers and AI accelerators) purchases that they otherwise would not be able to justify.

Exhibit 21: CSPs are now commonly depreciating IT hardware assets such as servers/accelerators over 5-6 years vs. historically 3-4 years
IT hardware depreciation schedule at major cloud service providers

Cloud Provider	IT Hardware Type	Depreciation Lifespan
GOOGL	Servers & Network Equipment	6 years
MSFT	Computer Equipment	2-6 years
AMZN	Servers and Networking Equipment	5 years
META	Servers and Network Assets	4-5 years
ORCL	Computer, Network, Machinery, and Equipment	1-6 years
CRWV	Technology Equipment	6 years
NBIS	Server and Network Equipment	4 years

Source: BofA Global Research, company filings

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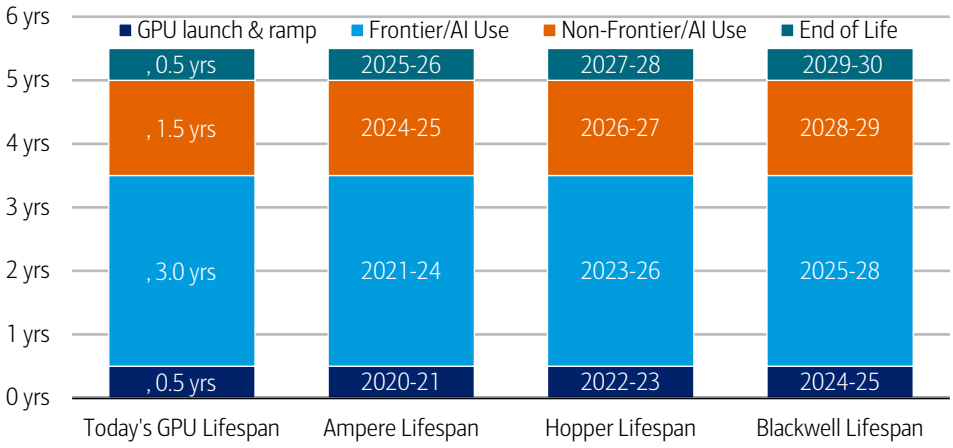
However, we point out that AI servers, particularly GPUs/accelerators, are in use for 5-6 years today. For instance, the Ampere A100 GPUs from 2020 are still nearly at full utilization today, per NVDA. While not all current use cases for these older GPUs may be leading-edge frontier LLM development, and they may be more used toward non-AI/life science/HPC type workloads, demand for these non-AI workloads are also rising quickly as the cost of compute is overall declining.

Overall, we believe **useful life of 5-6 years for AI GPUs is possible** via:

- 0.5-1.0 year of launch, ramping into clusters of 100s of thousands of GPUs
- ~3 years of frontier/AI model training and inferencing, such as Hopper GPUs (2022-23 launch) in full service today at leading LLMs (GPT-5, Grok-4, etc.)
- 1-2 years of non-frontier/non-AI use case such as in HPC, life science, etc.
- 0.5 year of end of life, decommissioning

Exhibit 22: We see a total of 5-6 years of useful life for AI accelerators/GPUs today
Typical GPU use cases over its lifespan (useful life)



Source: BofA Global Research estimates

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The slowing capex concern

While there are concerns around slowing capex, Oracle project delays (OpenAI from 2026 to 2027 per media reports), and profitability (at both LLM builders and cloud providers), we continue to believe the AI infra buildout cycle is ongoing, with global AI capex (cloud/non-cloud combined) expected to reach $1.2Tn+/yr by CY30E (see Exhibit 13).

Our latest cloud capex tracker below (post Oracle F2Q26 results) suggests global cloud capex to reach $631bn/$734bn in CY26/27E, or up +34%/+16% YoY vs. prior +31%/+13% from early November (post CQ3 earnings). Importantly, we expect the strong capex growth to be broad-based, with all major hyperscalers' spend likely to grow strong double-digit in CY26, followed by HSD-double-digit growth again in CY27.

CSP/LLM profitability outlook (as well as depreciation concerns) could impact longer-term capex trends (2028-30), but we anticipate near-term (2026-27) capex trends to remain steady as new, more powerful rack-scale GPU solutions from both NVDA (Vera Rubin) and AMD (MI455) are slated for 2H26 and into 2027, with multiple GW (each ~$50-60bn total capex, ~$20-30bn semis vendor content) of capacity planned ahead.

Exhibit 23: Consensus aggregate projections suggest capex across major cloud vendors can grow +34%/+16% YoY in CY26/27E
Summary of Cloud Capex Outlook (incl. leases)

CapEx ($mn)	C1Q25	C2Q25	C3Q25	C4Q25E	C1Q26E	C2Q26E	C3Q26E	C4Q26E	2023	2024	2025E	2026E	2027E	2028E
Top 5 US	**82,419**	**104,447**	**121,279**	**132,771**	**136,221**	**147,208**	**154,082**	**160,922**	**161,255**	**260,691**	**440,916**	**598,433**	**699,147**	**722,459**
Google	17,197	22,446	23,953	28,692	28,275	30,510	32,745	35,314	32,251	52,535	92,288	126,844	138,716	148,924
Microsoft (incl. leases)	21,400	24,200	34,900	35,900	36,363	38,027	39,190	39,611	41,200	75,600	116,400	153,192	166,779	171,522
Amazon (incl. leases)	25,019	32,183	35,095	34,199	35,064	37,761	39,693	39,564	52,729	82,999	126,496	152,082	198,415	196,232
Meta (incl. leases)	12,941	16,538	18,829	21,947	24,215	27,101	29,170	31,937	28,140	38,812	70,255	112,423	126,755	128,569
Oracle	5,862	9,080	8,502	12,033	12,304	13,808	13,284	14,496	6,935	10,745	35,477	53,892	68,482	77,211
Top China	**6,392**	**7,536**	**8,606**	**8,587**	**7,051**	**7,569**	**8,859**	**9,425**	**7,910**	**18,825**	**31,122**	**32,905**	**34,915**	**34,207**
Alibaba	3,078	4,796	5,271	4,077	3,384	4,918	5,460	4,750	3,006	9,456	17,222	18,513	18,653	16,876
Tencent	3,048	2,357	2,906	3,972	3,371	2,232	2,968	4,160	3,344	8,077	12,283	12,731	14,526	15,383
Baidu	267	383	429	538	297	418	432	514	1,561	1,292	1,617	1,661	1,735	1,949
Total	**88,811**	**111,983**	**129,885**	**141,358**	**143,273**	**154,777**	**162,942**	**170,347**	**169,165**	**279,516**	**472,039**	**631,338**	**734,062**	**756,666**
NVDA/AMD/AVGO/MRVL DC	48,631	51,047	63,574	74,175	81,678	91,924	105,629	112,638	61,534	145,965	237,426	391,869	530,613	627,726
YoY %														
Top 5 US	**67.1%**	**71.0%**	**80.5%**	**59.8%**	**65.3%**	**40.9%**	**27.0%**	**21.2%**	**(0.6%)**	**61.7%**	**69.1%**	**35.7%**	**16.8%**	**3.3%**
Google	.2%	70.2%	83.4%	101.0%	64.4%	35.9%	36.7%	23.1%	2.4%	62.9%	75.7%	37.4%	9.4%	7.4%
Microsoft (incl. leases)	52.9%	27.4%	74.5%	58.9%	69.9%	57.1%	12.3%	10.3%	45.1%	83.5%	54.0%	31.6%	8.9%	2.8%
Amazon (incl. leases)	67.6%	82.7%	55.2%	22.9%	40.2%	17.3%	13.1%	15.7%	(17.2%)	57.4%	52.4%	20.2%	30.5%	(1.1%)
Meta (incl. leases)	92.7%	95.2%	104.7%	52.1%	87.1%	63.9%	54.9%	45.5%	(12.2%)	37.9%	81.0%	60.0%	12.7%	1.4%
Oracle	250.2%	224.5%	269.2%	203.1%	109.9%	52.1%	56.2%	20.5%	3.8%	54.9%	230.2%	51.9%	27.1%	12.7%
Top China	**67.5%**	**132.9%**	**40.4%**	**52.2%**	**10.3%**	**0.4%**	**2.9%**	**9.8%**	**(15.9%)**	**138.0%**	**65.3%**	**5.7%**	**6.1%**	**(2.0%)**
Alibaba	99.2%	188.3%	43.2%	58.9%	10.0%	2.5%	3.6%	16.5%	(45.3%)	214.6%	82.1%	7.5%	0.8%	(9.5%)
Tencent	53.3%	96.3%	35.0%	45.2%	10.6%	(5.3%)	2.1%	4.7%	23.7%	141.6%	52.1%	3.6%	14.1%	5.9%
Baidu	(5.6%)	2.9%	44.9%	57.8%	11.3%	9.2%	0.5%	(4.5%)	28.3%	(17.2%)	25.2%	2.7%	4.5%	12.3%
Total	**67.1%**	**74.1%**	**77.2%**	**59.3%**	**61.3%**	**38.2%**	**25.5%**	**20.5%**	**(1.4%)**	**65.2%**	**68.9%**	**33.7%**	**16.3%**	**3.1%**
NVDA/AMD/AVGO/MRVL DC	69.3%	53.9%	62.3%	65.2%	68.0%	80.1%	66.2%	51.9%	135.9%	137.2%	62.7%	65.0%	35.4%	18.3%
Cap. intensity (%)														
Top 5 US	**22.1%**	**25.9%**	**28.4%**	**28.8%**	**32.9%**	**33.1%**	**32.9%**	**30.7%**	**12.4%**	**17.7%**	**26.5%**	**32.3%**	**33.0%**	**29.5%**
Google	19.1%	23.3%	23.4%	30.3%	31.7%	32.1%	32.5%	32.3%	10.5%	15.0%	24.0%	32.2%	30.4%	28.6%
Microsoft (incl. leases)	30.5%	31.7%	44.9%	44.7%	44.7%	43.4%	44.1%	42.9%	18.1%	28.9%	38.2%	43.7%	41.3%	36.4%
Amazon (incl. leases)	16.1%	19.2%	19.5%	16.2%	20.0%	20.2%	19.8%	16.9%	9.2%	13.0%	17.7%	19.1%	22.5%	20.0%
Meta (incl. leases)	30.6%	34.8%	36.7%	37.6%	47.4%	48.3%	48.8%	46.7%	20.9%	23.6%	35.2%	47.7%	46.2%	40.5%
Oracle	41.5%	57.1%	57.0%	74.9%	72.8%	72.3%	71.1%	70.6%	13.4%	19.6%	58.1%	71.7%	66.1%	49.3%
Top China	**10.4%**	**11.7%**	**13.1%**	**11.7%**	**10.4%**	**10.4%**	**12.1%**	**11.7%**	**3.4%**	**7.6%**	**11.7%**	**11.2%**	**10.9%**	**9.8%**
Alibaba	9.5%	14.0%	15.2%	9.8%	9.6%	12.6%	14.2%	10.4%	2.3%	6.9%	12.1%	11.7%	10.7%	9.1%
Tencent	12.3%	9.2%	10.8%	14.4%	11.9%	7.8%	9.9%	13.9%	3.9%	8.8%	11.7%	10.9%	11.6%	11.0%
Baidu	6.0%	8.5%	9.9%	11.5%	6.6%	8.8%	9.3%	10.2%	8.2%	7.0%	9.0%	8.8%	8.3%	8.0%
Total	**20.5%**	**23.9%**	**26.4%**	**26.4%**	**29.7%**	**29.9%**	**30.1%**	**28.2%**	**11.0%**	**16.3%**	**24.5%**	**29.4%**	**30.1%**	**27.0%**
NVDA/AMD/AVGO/MRVL DC	54.8%	45.6%	48.9%	52.5%	57.0%	59.4%	64.8%	66.1%	36.4%	52.2%	50.3%	62.1%	72.3%	83.0%

Source: BofA Global Research estimates, Bloomberg

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CY26/27 capex estimates have consistently increased over time

Below, we highlight Street estimates for global cloud capex have steadily increased over the last twelve months. On an absolute $ basis, outlook for CY26 capex (excl. leases for like-for-like comp) has risen +75% YoY. On a YoY growth basis (not in the table below), current CY26 outlook of +34% YoY is ~4x the +8% YoY pace a year ago.

Including capital leases (as in Exhibit 1), outlook for has risen +80% YTD for CY26 capex, nearly +100% for CY27 capex. On a YoY growth basis (as in Exhibit 1), current CY26 outlook calls for +34% growth YoY, with CY27 suggesting +16% YoY.

Exhibit 24: Estimates for 2026, 2027 have increased by 70-100%+ over the last 12 months
Global cloud capex estimate changes over past 12 months (excl. leases and incl. leases)

		Nov' 24	Jan' 25	Feb' 25	Apr' 25	May' 25	Jul' 25	Aug' 25	Oct' 25	Nov' 25	Dec' 25	YoY
Capex ($mn)	**2025E**	300,693	312,114	339,687	356,954	367,172	374,035	405,851	416,273	424,034	432,400	38.5%
(excl. leases)	**2026E**	322,986	335,986	360,589	387,350	395,598	403,938	469,858	495,915	559,725	586,274	74.5%
	2027E	NA	343,086	365,276	409,450	416,979	430,812	513,650	544,738	641,371	689,512	101.0%
	2028E										684,268	NA
Change (%)	**2025E**	10.5%	3.8%	8.8%	5.1%	2.9%	1.9%	8.5%	2.6%	1.9%	2.0%	
	2026E	10.7%	4.0%	7.3%	7.4%	2.1%	2.1%	16.3%	5.5%	12.9%	4.7%	
	2027E	NA	NA	6.5%	12.1%	1.8%	3.3%	19.2%	6.1%	17.7%	7.5%	
	2028E									NA	NA	
		Nov' 24	**Jan' 25**	**Feb' 25**	**Apr' 25**	**May' 25**	**Jul' 25**	**Aug' 25**	**Oct' 25**	**Nov' 25**	**Dec' 25**	**YTD**
Capex ($mn)	**2025E**		326,020	367,068	401,517	395,744	397,013	432,296	442,636	466,151	472,039	44.8%
(incl. leases)	**2026E**		350,030	388,727	428,779	418,085	435,287	500,231	527,549	610,689	631,338	80.4%
	2027E		369,514	394,186	441,857	449,982	464,910	542,388	575,937	691,332	734,062	98.7%
	2028E									724,269	756,666	NA
Change (%)	**2025E**	NA	NA	12.6%	9.4%	-1.4%	0.3%	8.9%	2.4%	5.3%	1.3%	
	2026E	NA	NA	11.1%	10.3%	-2.5%	4.1%	14.9%	5.5%	15.8%	3.4%	
	2027E	NA	NA	6.7%	12.1%	1.8%	3.3%	16.7%	6.2%	20.0%	6.2%	
	2028E									NA	4.5%	

Source: BofA Global Research estimates, Bloomberg

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On an operating cash flow basis, cloud capex is expected to reach ~75-80%+ of total operating cash flow in CY25-28E. While elevated versus historical 35-50% between 2018-2024, we flag they are not unsustainable levels, given US telco capex had also reached 65-70% during the peak of the 4G/5G infra buildout phase, and AI infra investment arguably has more significant upside potential than telco infra buildout.

Exhibit 25: Telco capex has reached as high as 65-70% during the peak of its 4G/5G infra buildout phase of 2014-2017, vs. cloud capex expected to reach 75-80% over the next few years on expected AI infra buildout
Telco vs. Cloud Capex as a % of Cash Flow from Ops

Cloud	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	CAGR '19-'24	CAGR '25-'28	CAGR '14-'24
Cash Flow from Ops ($bn)	144.8	175.6	213.4	251.2	339.1	347.2	337.1	440.9	540.2	624.4	752.8	892.7	1,000.4	16.5%	17.0%	18.7%
Capex w/ Leases ($bn)	38.2	51.1	77.8	85.6	111.8	148.5	171.7	169.2	279.5	472.0	631.3	734.1	756.7	26.7%	17.0%	26.8%
Cloud Capex / CFO (%)	**26.4%**	**29.1%**	**36.5%**	**34.1%**	**33.0%**	**42.8%**	**50.9%**	**38.4%**	**51.7%**	**75.6%**	**83.9%**	**82.2%**	**75.6%**			

Telco	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	CAGR '19-'24	CAGR '25-'28	CAGR '14-'24
Cash Flow from Ops ($bn)	67.2	70.7	87.2	95.1	96.7	87.9	90.8	99.2	101.6	104.6	113.1	120.7	128.7	1.3%	7.1%	4.4%
Capex w/ Leases ($bn)	44.2	44.0	43.5	44.0	44.9	48.2	56.7	46.4	46.2	48.6	50.9	50.9	50.9	1.0%	1.6%	0.7%
Telco Capex / CFO (%)	**65.8%**	**62.3%**	**49.8%**	**46.2%**	**46.4%**	**54.8%**	**62.4%**	**46.8%**	**45.5%**	**46.4%**	**45.0%**	**42.2%**	**39.6%**			

Source: BofA Global Research estimates, Bloomberg

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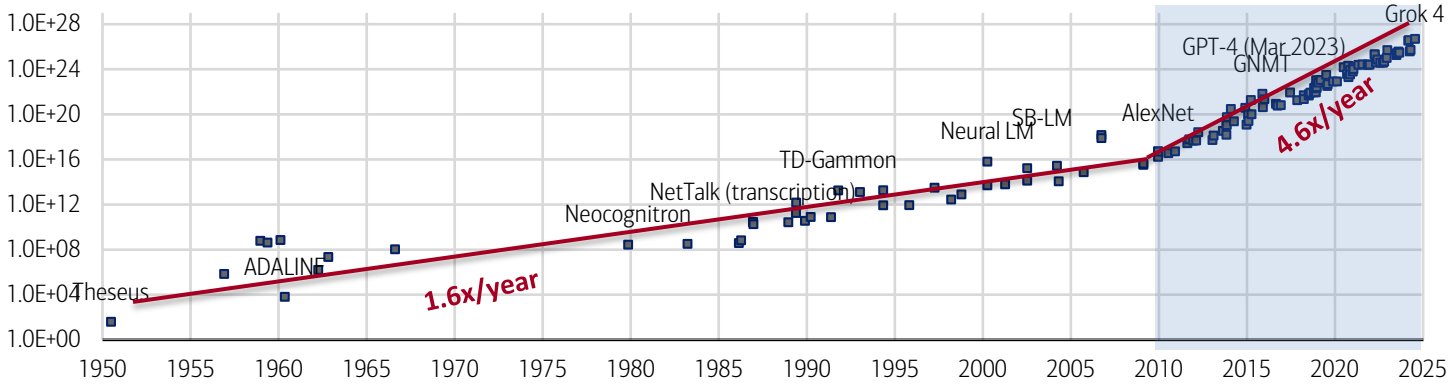
Scaling laws are still alive in AI

Since the rise of deep learning in 2010 and the introduction of dedicated accelerators (such as GPUs), the pace of compute scaling has increased dramatically, reaching ~4.5x/year (2x every 6 months) vs. historical Moore's Law's ~1.5x/year (2x every 2 yrs).

Since the launch of ChatGPT in November 2022, this trend has continued with the introduction of purpose-built AI accelerators, AI networking (switches, NICs, connectivity), and AI memory (HBM), as well as the combination of these three into scalable rack solutions.

Exhibit 26: Training compute (FLOP) continues to scale at an accelerated pace (~4.5x/yr) since the launch of accelerators vs. historical traditional/linear compute (Moore's Law, ~1.5x/year)
Training compute (FLOP) by different AI models over the last 75 years



Source: BofA Global Research estimates, Epoch AI

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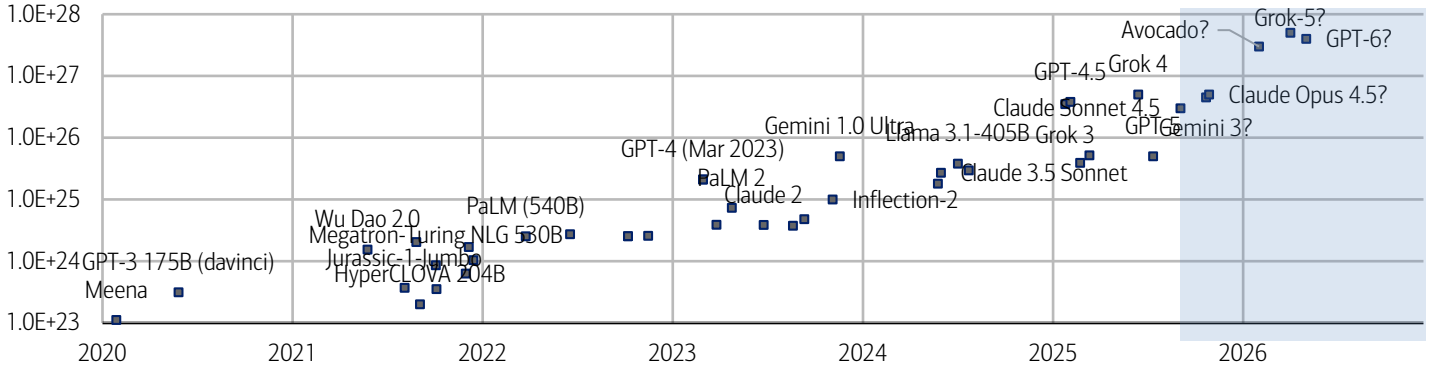
2x scaling every 6 months

Particularly, we expect this trend (2x every 6 months) to continue into 2026E driven by the launch of new models trained on NVDA's Blackwell GPUs (shipping since 2024, but no public models out yet) which delivers 10-15x faster MOE inferencing and ~2.5x faster training vs. prior-gen Hopper. Improvement from software optimization, rack-level scaling, etc. could provide further gains.

Follow on Rubin (2H26), Rubin Ultra (2H27), and Feynman (2H28) products from NVDA, as well as MI450 (2H26) and MI500 (2H27) products from AMD could further help LLMs expand tokens per watt and revenue per token gen-over-gen for the foreseeable future. In other words, we expect the current accelerated scaling pace to continue driven by an annual cadence of more powerful accelerator chips/racks/systems.

Exhibit 27: We expect training compute (FLOP) to continue scaling at an accelerated pace (~4.5x/yr) into 2026E, driven by the ramp of new powerful GPUs
Training compute (FLOP) by different AI models between 2020-2026E



Source: BofA Global Research estimates, Epoch AI

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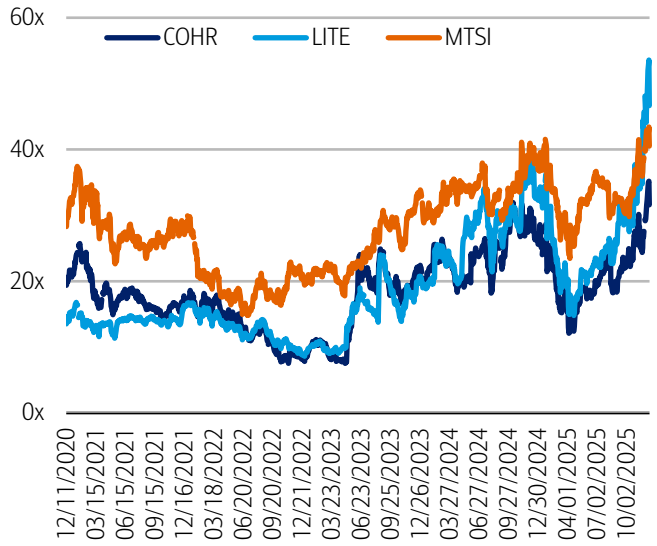
Memory/Optical: more cautious after run

While we continue to be constructive on near-term memory and optical/laser pricing, we flag related memory/optical vendor stocks (MU, COHR, LITE) trade at sizable premium today vs. historical median following their recent runs.

Exhibit 28: Optical vendors valuation are well above 5-year historical median for COHR/LITE, modestly above for MTSI
COHR/LITE/MTSI fwd 12-month P/E trends



Source: BofA Global Research, Bloomberg

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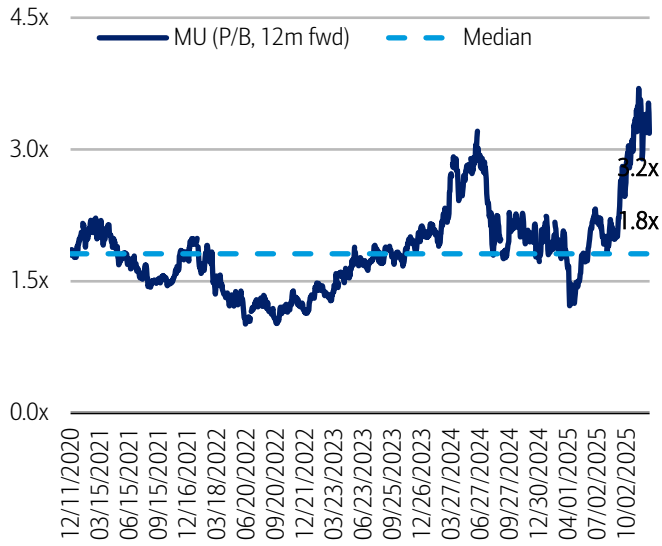
Exhibit 29: Memory vendor MU valuation at 3.2x P/B is well above 5-year its historical median of 1.8x
MU fwd 12-month P/B trends



Source: BofA Global Research, Bloomberg

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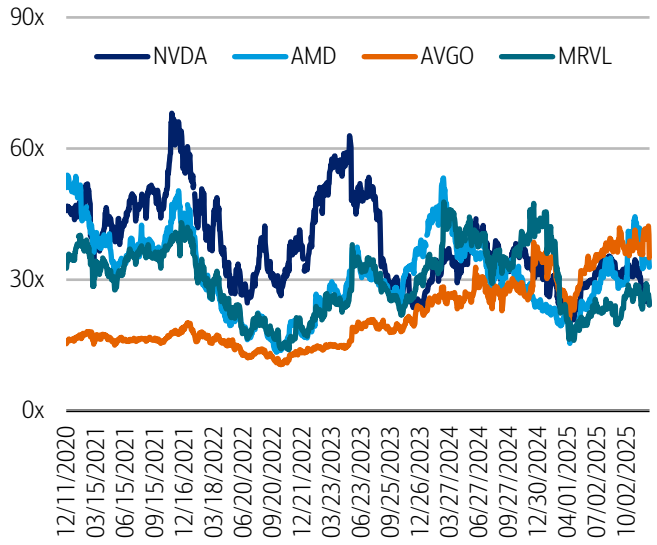
Similarly, we highlight premium valuation vs. historical median for compute vendor AVGO (35.0x vs. 18.7x), while discounted valuation vs. historical median for: 1) compute vendors NVDA, AMD, MRVL; and 2) AI connectivity vendors CRDO/ALAB.

Exhibit 30: Compute vendors valuation are mixed, AVGO well above its 5-year historical median, below/near for NVDA, AMD, MRVL
NVDA/AMD/AVGO/MRVL fwd 12-month P/E trends



Source: BofA Global Research, Bloomberg

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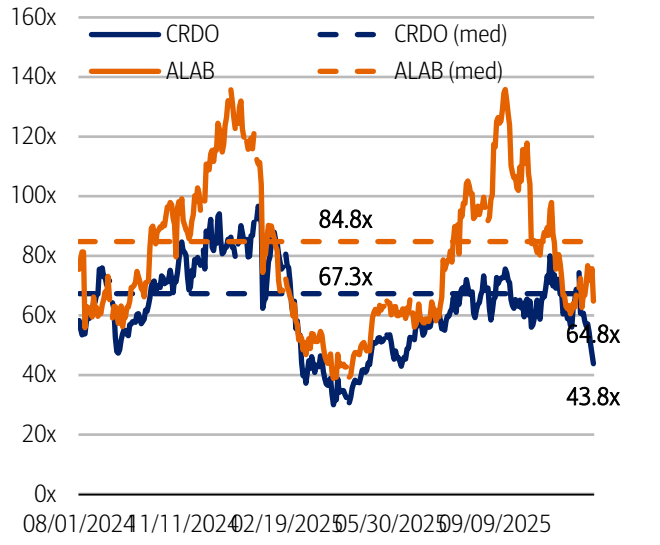
Exhibit 31: AI connectivity vendors CRDO/ALAB valuation are well below their 2-year historical median, by ~20x turns each
CRDO/ALAB fwd 12-month P/E trends



Source: BofA Global Research, Bloomberg

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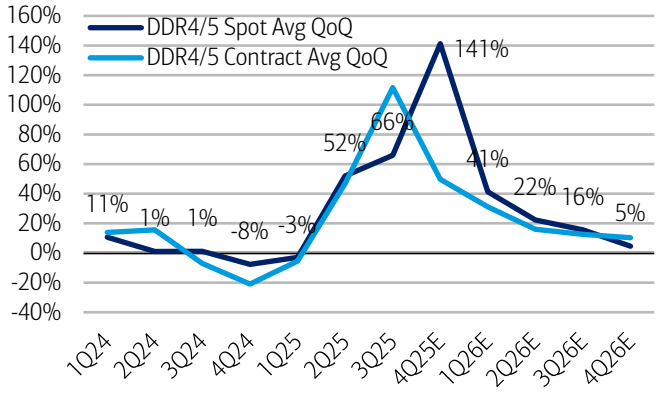
Memory Outlook:

As our colleague Simon Woo writes in his Memory-specific Year Ahead 2026 report (see Dec 12 report), we continue to expect generally favorable pricing environment (DRAM +33% YoY, NAND +26% YoY, with elevated pricing continuing into early 2027.

Exhibit 32: Favorable DRAM pricing could extend throughout CY26
DRAM Spot/Contract ASP Trends



Source: BofA Global Research estimates

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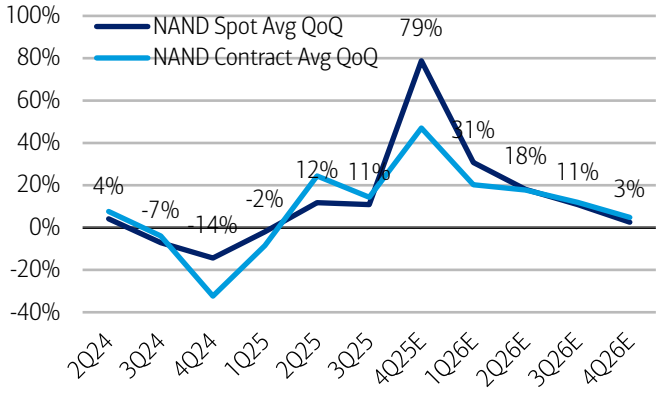
Exhibit 33: Favorable NAND pricing could extend throughout CY26
NAND Spot/Contract ASP Trends



Source: BofA Global Research estimates

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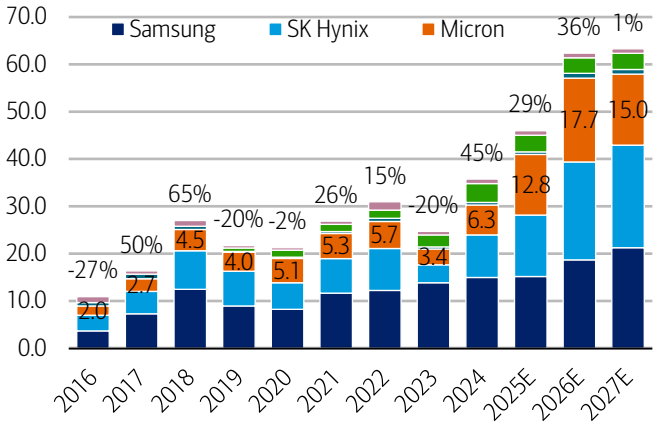
Industry Capex Outlook

Between 2023-24, the lack of sustained capex for both non-HBM DRAM (mostly new HBM additions 2024-onward) and NAND helped provide the current favorable pricing environment. Particularly, capex during that period had been directed toward: 1) new HBM capacity additions, and 2) tech transitions only for commodity DRAM and NAND – suggesting no incremental capacity adds beyond maintenance capex.

However, MU noted in Nov'25 in a conference noted it now expects upward pressure to FY26 capex (we est. +28% YoY in CY26), while we expect SK Hynix capex to be up +55% YoY in CY26E. In aggregate, we expect industry memory capex of up +28% YoY (or +$20bn YoY) vs. just +20% in CY25 (+$12bn YoY).

Production volume increase could be a bit more modest, though, at up sub-20% YoY, given Hynix's high infra-related (~30% of total) and node migration (~40%) spends.

Exhibit 34: We expect DRAM capex to increase +36% YoY in 2026
DRAM Industry Capex Estimate ($bn)



Source: BofA Global Research estimates

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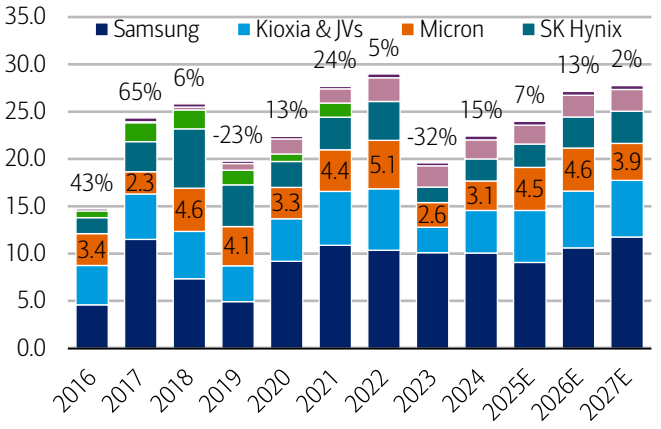
Exhibit 35: We expect NAND capex to increase +13% YoY in 2026
NAND Industry Capex Estimate ($bn)



Source: BofA Global Research estimates

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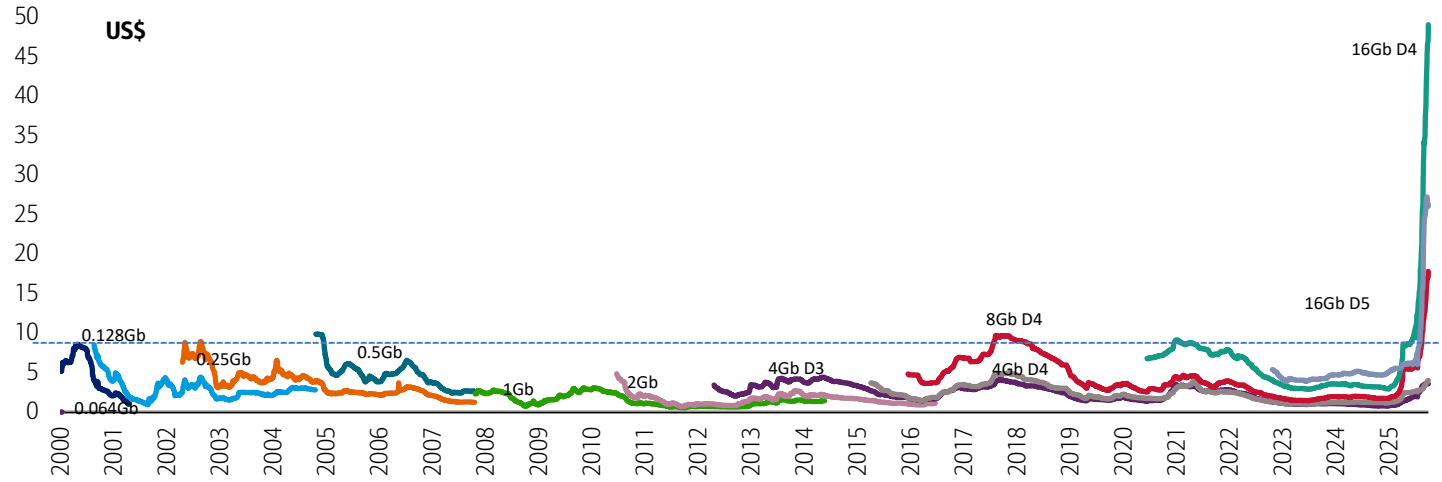
Memory spot price trend

Exhibit 36: DRAM spot price rally exceptionally strong since Sept-25; record-high level for current mainstream DRAM 16Gb DDR5 at US$26 and 16Gb DDR4 at $50; DRAM price hit the highest levels in the past 25 years. Previous high level was hit in Oct-17, but only $10 level vs current $20+
DRAM spot price – long-term trend (2000-2025)



Source: DRAMeXchange

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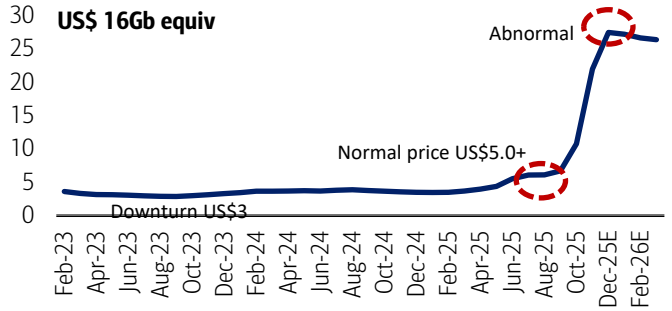
Exhibit 37: More than tripled through Oct/Nov/Dec; abnormally high at US$25; no hard landing but mild correction expected in 1Q26
DRAM spot price outlook - US$/16Gb equiv



Source: DRAMeXchange, BofA Global Research estimates

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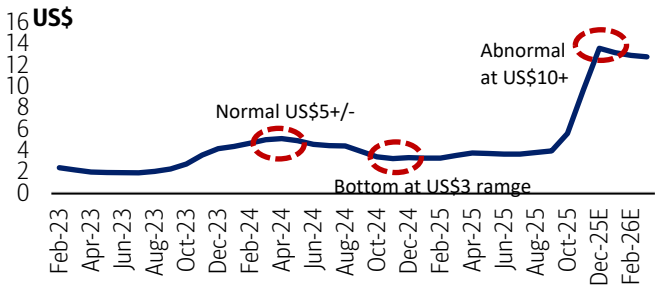
Exhibit 38: Like DRAM, more than doubled through Oct/Nov/Dec; thus abnormally high at US$10+; no hard landing but mild correction also expected in 1Q26
NAND spot price outlook - US$/512Gb equiv



Source: DRAMeXchange, BofA Global Research estimates

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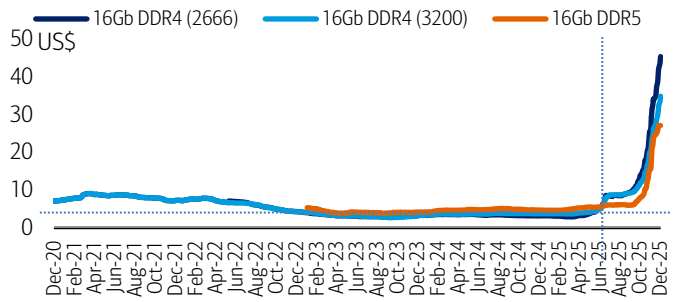
Exhibit 39: DDR4 crossover occurred in Jun-25; current price of 16Gb DDR4 ($50) much higher vs 16Gb DDR5 ($26)
Long term price trend of 16Gb DDR5 and 16Gb DDR4 products



Source: DRAMeXchange

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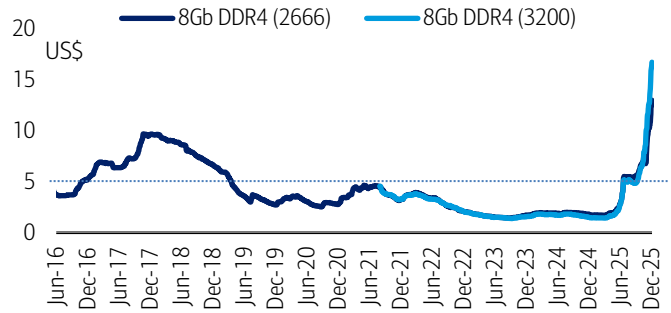
Exhibit 40: Current 8Gb DDR4 price hits ~$18 level, exceeds previous high of $10 (Oct-17), and way above historical average of $4-5
Long term price trend of 8Gb DDR4 products



Source: DRAMeXchange

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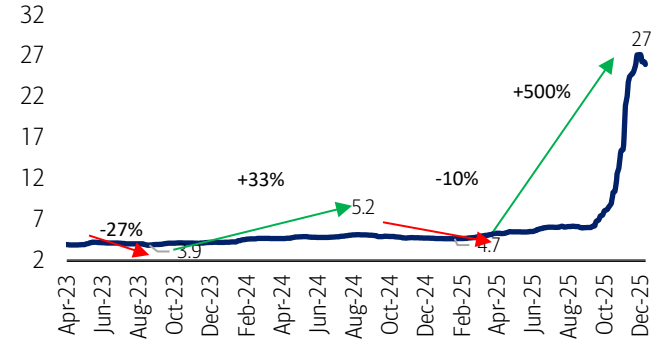
Exhibit 41: Price slightly muted for two consecutive weeks but still all-time high (~US$26) on the back of robust rally in Nov (+60%) and Oct (+70%)
16Gb DDR5 spot price – daily, Apr '23-Dec '25



Source: DRAMeXchange

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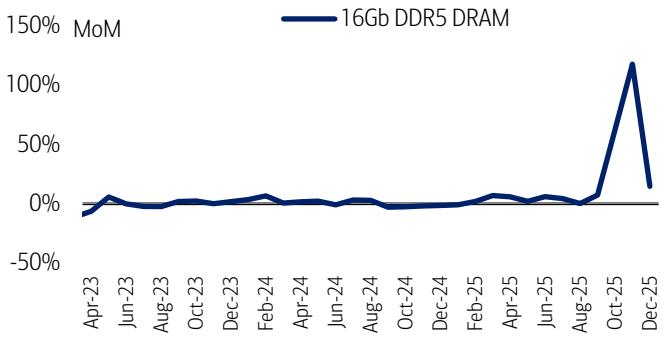
Exhibit 42: Strongest MoM recovery (+60-100% MoM) recorded in Oct and Nov vs only 5-10% MoM during Mar-Sep
16Gb DDR5 spot month-average price – MoM change, Apr '23-Dec '25



Source: DRAMeXchange

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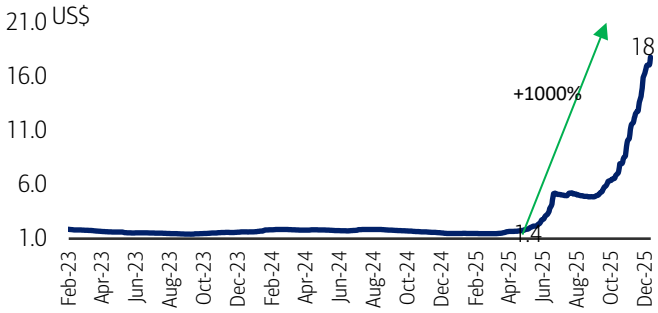
Exhibit 43: 8Gb DDR4 rally more notable (1000%+ YTD) due to big-3 chipmakers' production cut; price hit $18 exceeding previous high levels of $10 hit in Oct-17
8Gb DDR4 spot price trend, Feb '23-Dec '25



Source: DRAMeXchange

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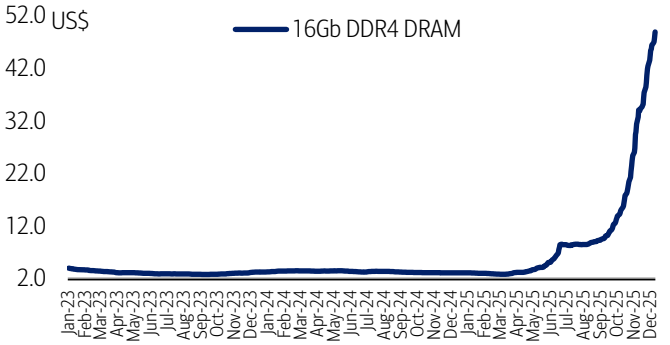
Exhibit 44: Also recovered well in Sep (+33%), Oct (+70%), Nov (+50%) and early Dec (16%) to reach US$50; price up 1000%+ YTD
16Gb DDR4 spot price trend, Jan '23-Dec '25



Source: DRAMeXchange

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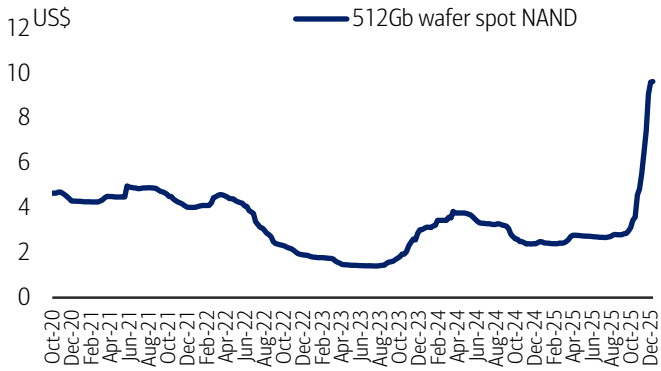
Exhibit 45: Strong rally seen in Oct (~50%) and Nov (~70%) due to production cut and demand recovery driven price upside; early Dec price also up +6%, but flat this week
512Gb NAND wafer spot price – weekly, Dec '20-Dec '25



Source: DRAMeXchange

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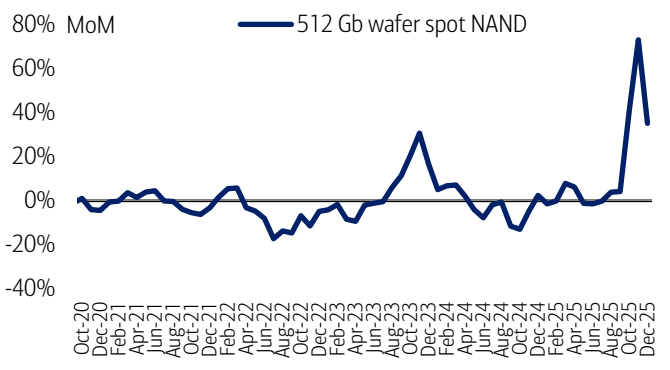
Exhibit 46: Prices massively recovered 35-70% in Oct/Nov/early-Dec vs up 4% MoM each in Aug and September'; prices remained flat in May/June/July
512Gb NAND wafer spot month-average – MoM change, Oct '20-Dec '25



Source: DRAMeXchange

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Optical Outlook:
We raise POs significantly for both COHR and LITE due to outsized demand for optical transceivers and components where demand continues to exceed supply, which is extending historically short-lived cycles for 800G/1.6T ethernet units and improving power leading to structurally higher gross margins.

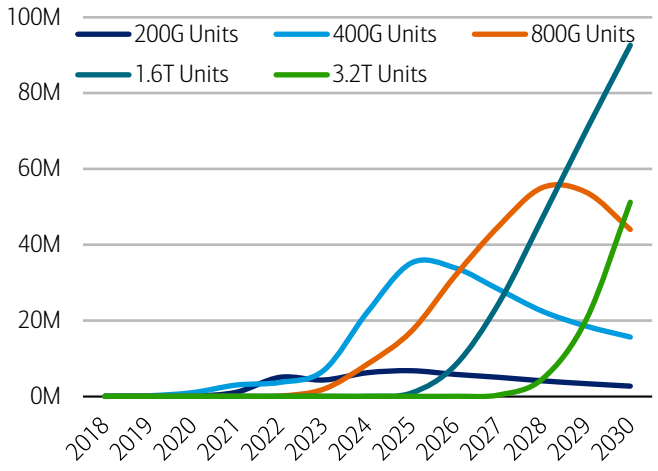
COHR: Raise PO to $210 from $165 on high-speed transceiver ramps

We raise our PO to $210 (now on 32x CY27E PE) from $165 (28x CY26E PE). Accelerated progress on ramping 6" substrates is enabling Coherent (COHR) to double internal supply over the next year, helping to ease critical EML shortages that have constrained output, but also unlocking faster growth in datacom (+10% QoQ/+30% YoY in DecQ). The 1.6T ramp is tracking well across a broadening customer base while 800G transceiver revenue has also strengthened into CY26. While the multiple re-rating is justified given a much larger TAM, we reiterate Neutral as current 32x NTM PE is well above 5-yr median of 21x.

LITE: Raise PO to $375 from $210 on laser, CPO, and OCS momentum

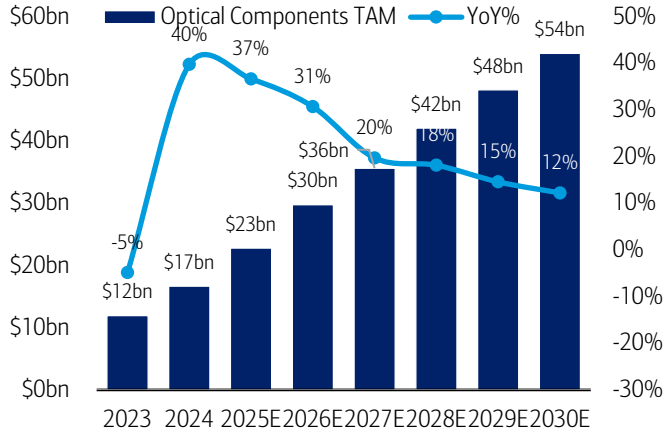
We raise our PO to $375 (on 45x CY27E PE) from $210 (30x CY26E PE). LITE's portfolio well positioned to address the massive surge in optical connectivity that is growing at a greater than 25% CAGR through CY24-29 inside a potential $30bn+ TAM. In addition to core EML laser momentum, where supply is improving, we see additional revenue upside potential from OCS, generating up to $100mn/qtr revenue by C2H'26, CPO (unquantified but likely substantial as LITE is primary supplier for NVDA), and transceivers reaching $250mn/qtr. Despite better multi-year growth prospects, as estimates have yet to catch up to a 51x NTM PE which is 2-3x the normal range.

Exhibit 47: 400G/800G demand is expected to sustain through 2026-27 while 1.6T units are expected to ramp meaningfully in 2027+
Ethernet units (M) over time by lane speed



Source: BofA Global Research, LightCounting
BofA GLOBAL RESEARCH

Exhibit 48: Optical Components TAM expected to continue strong growth through 2026-27 driven by AI infrastructure buildouts
Optical Components TAM including transceivers, AOCs, and WSS modules



Source: BofA Global Research, LightCounting
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Demand is surging for indium phosphide-based EML and CW lasers as 800G and 1.6T transceiver demand ramps, and the well-known shortages in the market mean EML pricing will likely strengthen further as a result. Meanwhile, co-packaged optics (CPO) is expected to ramp more meaningfully beginning C2H'26 and more steeply into 2027 as NVDA's InfiniBand and Ethernet-based CPO switches come to market. Although CPO could drive some transceiver content loss, UHP laser ASPs of up to roughly $50 could make the overall impact at least content-neutral for LITE (and potentially for COHR as well). Separately, optical circuit switch (OCS) represents a fast-growing opportunity for COHR/LITE, with an estimated $2bn TAM (COHR) driven by use cases such as spine replacement, scale-up architectures, and redundancy.

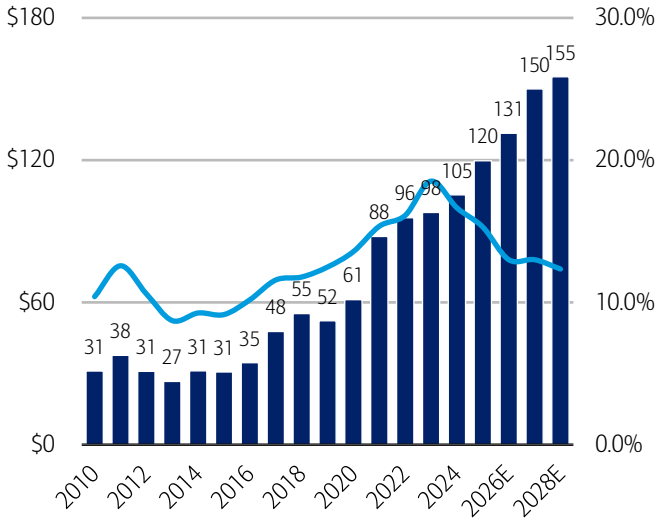
Theme 2: Semicap Equipment (WFE)

Semi Capital Equipment stocks have been among the best performers in the sector with the big US 3 (AMAT, LRCX, KLAC) up 60%-125% YTD in CY25. Driving these gains are sharply higher multi-year WFE expectations in response to surging AI infrastructure demand and semi supply chain re-shoring. This is leading to capital intensive capacity expansions and tech upgrades across leading-edge foundry/logic, DRAM, and NAND. As we forecast the global semi industry to hit $1tn (+29% YoY) in CY26E and $1.15tn sales CY27E, we now expect the TAM for process tools (WFE) to expand to $131bn (+10% YoY) and $150bn (+14% YoY). Shares are trading at premium multiples (Exhibit 65), but as we enter the second phase of the AI buildout (CY25-28E), we think this WFE upcycle is more powerful and durable than previous ones suggesting continued semicap outperformance in CY26.

AI 2.0: Fast industry growth, efficient investments

We segment the last 15 years into three distinct periods for semi and WFE growth (exhibit 50): Cloud/Mobile Era (CY10-19), COVID cycle (CY19-22), and AI 1.0/China Buildout CY22-25. Growth decelerated hard from the COVID phase into AI 1.0 as we transitioned from an era where each WFE category behaved the same (up strong DD) on industry-wide shortages to one where end market cycles trended asynchronously (AI-markets growing, but NAND downturn, leading-edge F/L consolidation, and non-China trailing-edge rolling over). However, we think the next leg of the AI expansion (CY25-28E) will be defined by synchronized growth across most WFE categories (ex-China) supporting a durable 9% WFE CAGR. We note that semi sales are growing materially quicker (+17% CAGR) and at higher efficiency (13% capital intensity). While intensity is lower, absolute dollar growth is also higher, suggesting that industry spending is more sustainable (less oversupply risk) while still growing the overall TAM.

Exhibit 49: WFE should grow to a record $150bn in CY27while capital intensity could fall to the low-teens %
WFE and capital intensity



Source: BofA Global Research estimates, Gartner, company reports, Bloomberg

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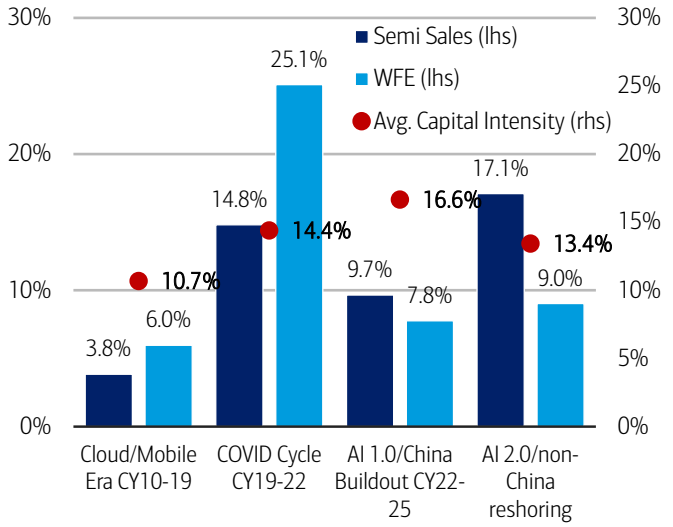
Exhibit 50: AI 2.0/non-China reshoring (CY25-28E) will have stronger WFE growth than AI 1.0/China buildout (CY22-25)
Semi sales CAGR, WFE CAGR, capital intensity across WFE mega-cycles



Source: BofA Global Research estimates, Gartner, company reports, Bloomberg

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Industry should experience +200% through-cycle expansion this decade

Over the last 27 years (Exhibit 51), the semicap industry has undergone 7 upturns (avg. duration of 2.6 years and +94% through-cycle expansion) and 6 downturns (avg. duration of 1.5 years and -27% peak-to-trough contraction). The ongoing reshoring/AI megacycle (when extended to CY28) could fuel +200% through-cycle growth (CY20-28), 2x historical cycles. This is transforming the WFE landscape by causing a structural step-up in demand (higher maintenance capex) and reducing spending volatility (i.e. downturns).

Exhibit 51: The ongoing WFE mega-cycle could nearly 3x the industry by decade-end
Historical WFE upcycles and downcycles, duration, and through-cycle expansion/contractions

WFE Cycles					
Upcycle	%	Duration (Yrs.)	Downcycle	%	Duration (Yrs)
CY98-00	125%	3	CY01-02	(51%)	2
CY03-04	75%	2	CY05	(8%)	1
CY06-07	49%	2	CY08-09	(65%)	2
CY10-11	180%	2	CY12-13	(29%)	2
CY14	17%	1	CY15	(1%)	1
CY16-18	80%	3	CY19	(5%)	1
CY20-25	129%	5			
CY25-28	30%	3			
CY20-28	197%	8			
Avg. Pre CY20	88%	2.2	Avg. Pre CY20	(27%)	1.5
Overall Avg.	94%	2.6	Overall Avg.	(27%)	1.5

Source: BofA Global Research estimates, Gartner, company reports, Bloomberg

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What will drive the next phase of growth? Leading-edge and non-China WFE

During AI 1.0, the best performing markets were DRAM (HBM but also China expansion), China (indigenization/pre-buys ahead of export controls), and EUV. Ahead (CY25-28E), the next leg of WFE growth will likely benefit leading-edge F/L (+17% CAGR), EUV (+20% CAGR), and non-China investments (+14% CAGR). Trailing-edge and China are declining, while memory is in-line with overall WFE (vs. undergrowing CY22-25).

Exhibit 52: Leading-edge F/L, EUV, non-China WFE are strongest CY25-28, trailing edge is weakest
WFE CAGR by category across 4 industry spending phases since CY10

CAGRs				
	Cloud/Mobile Era CY10-19	COVID Cycle CY19-22	AI 1.0/China Buildout CY22-25	AI 2.0/non-China Reshoring CY25-28
Memory	2.7%	20.2%	5.3%	9.4%
DRAM	(1.4%)	18.9%	21.3%	9.9%
NAND	7.6%	18.9%	(12.3%)	8.9%
Foundry/Logic/IDM	8.8%	28.1%	6.1%	8.8%
Leading-edge (<=22nm)	8.5%	33.7%	6.2%	17.0%
Trailing-edge (>22nm)	9.0%	23.2%	5.9%	(1.1%)
EUV	38.9%	20.5%	15.7%	20.3%
Total ex-EUV	5.2%	25.5%	4.8%	7.4%
China	20.6%	18.1%	16.8%	(2.4%)
Total Non-China	3.9%	27.4%	1.8%	14.0%
Total WFE	6.0%	25.1%	7.8%	9.0%

Source: BofA Global Research estimates, Gartner, company reports, Bloomberg

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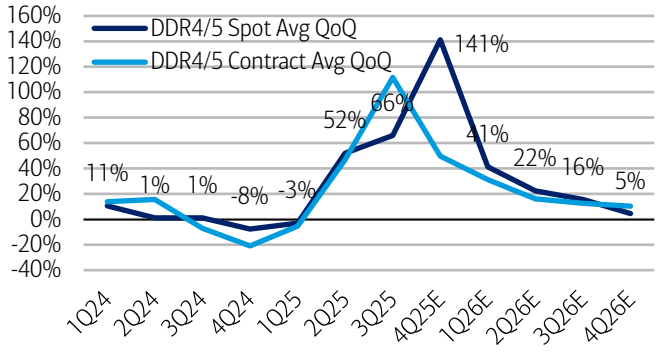
Memory: brewing pressure for capacity expansions

After peaking at 40% of WFE mix in CY21 (exhibit 57), the memory WFE has been choppy following a NAND/commodity DRAM glut in CY22, export restrictions (YMTC), and stockpiling from CXMT, despite strength in HBM/leading-edge DRAM. We think capex discipline and rising AI memory content is restoring the supply/demand imbalance to a healthier place setting the stage for multi-year capacity expansions.

Spot/contract pricing for both NAND and DRAM (exhibits 53 and 54) have been abnormally strong in C2H'25. AI is largely behind this uptrend, especially in DRAM, as memory makers have been transitioning low-end/commodity DRAM capacity towards HBM and DDR5. Memory content is ~2-3x higher in AI data centers when compared to traditional servers, making it a potential production bottleneck. Longer-term contracts are giving greater demand visibility while differentiated products like customized HBM also provide higher pricing power, incentivizing capacity expansions.

Exhibit 53: DRAM Spot/Contract ASP Trends
Favorable DRAM spot/contract pricing trends could extend throughout CY26



Source: BofA Global Research estimates

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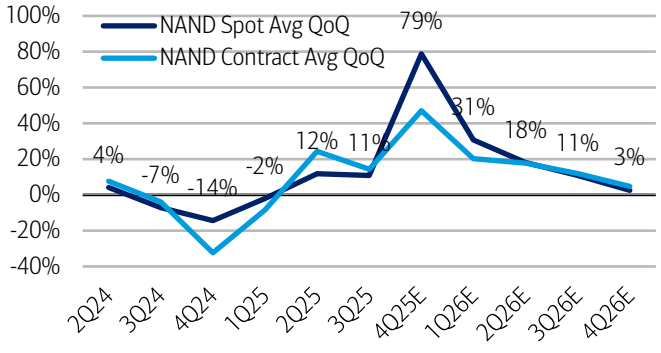
Exhibit 54: NAND Spot/Contract ASP Trends
Favorable NAND spot/contract pricing trends could extend throughout CY26



Source: BofA Global Research estimates

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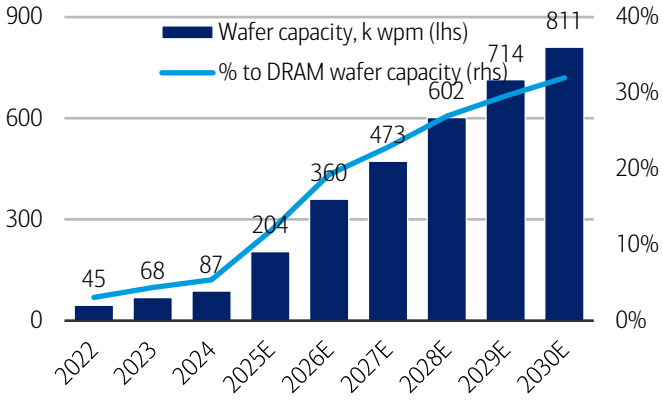
We think upward pricing pressure could push the industry to do greenfield capacity expansions in both DRAM and NAND. HBM continues to consume a high share of DRAM bits as vendors invest aggressively to gain share. NAND upgrades to +300L may only be one-third of the way through a $40bn cycle despite WFE nearly doubling in CY25.

Exhibit 55: HBM will approach mid-30% of total DRAM starts by CY30
HBM wafer capacity and % of total DRAM wafer capacity



Source: BofA Global Research estimates

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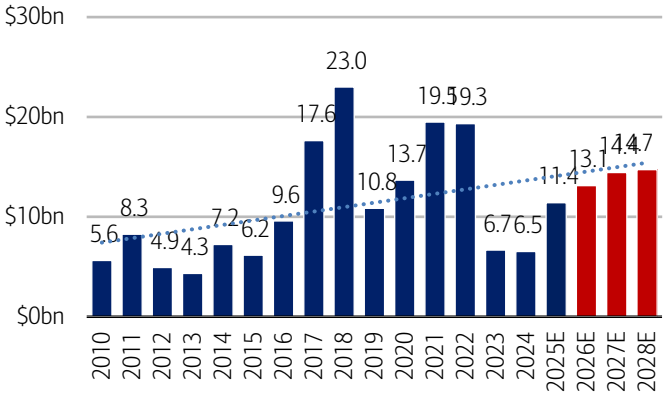
Exhibit 56: NAND WFE should recover towards the LT trend of ~$15bn
NAND WFE ($bn)



Source: BofA Global Research estimates, company reports, Bloomberg, Gartner

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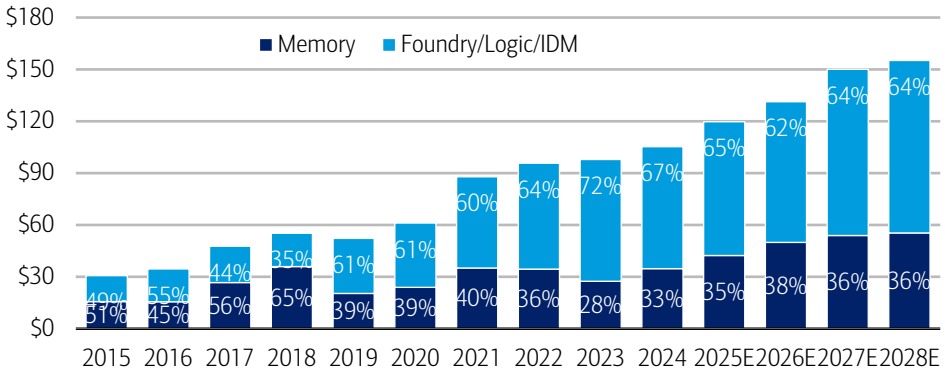
Exhibit 57: After falling to 28% of WFE mix in CY23, memory is rebounding to 36% by CY28
WFE % mix between foundry/logic/IDM and memory



Source: BofA Global Research estimates, Gartner, company reports

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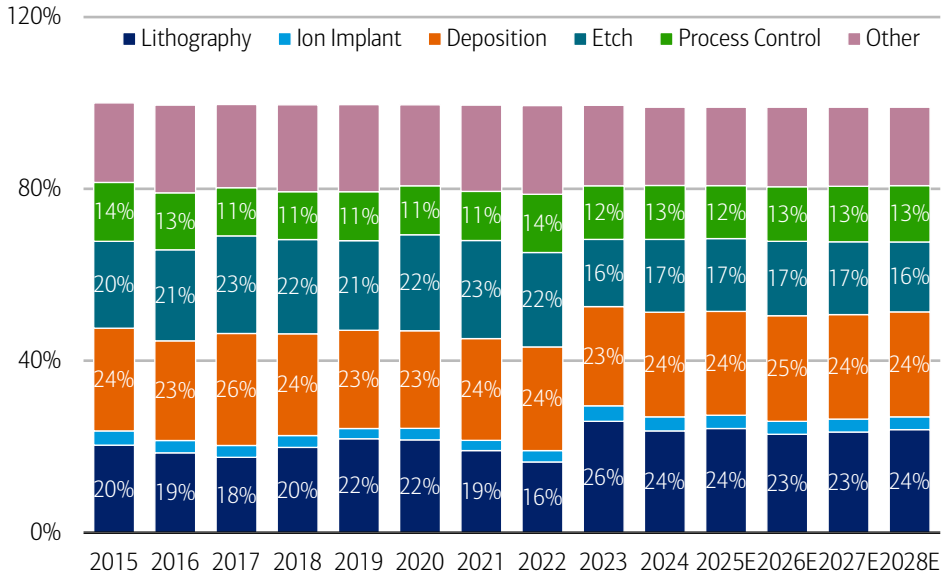
Process steps: Process control and Dep gaining share

WFE share across various process tech steps has largely been stable over time, but variations in the near/medium-term do impact the relative growth profiles of individual semicaps. In CY26, we expect process control (KLAC, NVMI) to gain 100bps of share to 13% of WFE while etch/dep (AMAT/LRCX) combined could expand to 42% of share (up 100bps from CY25 and up 300bps since CY23). Higher mix of NAND, HBM, and 2nm gate-all-around are driving these share gains. Litho is likely to lose ~100bps of share in CY26E after multiple years of strong sales for ASML, but we expect an inflection in high-NA/low-NA EUV orders in CY27 will help recover this eventually.

Exhibit 58: In CY26, etch/dep and process control gain share while litho loses some ground
WFE process step share CY15-28E



Source: BofA Global Research estimates, company reports, Bloomberg, Gartner

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Process control leading WFE growth CY25-28E

We expect process control to be the fastest growing process step over the next three years at an 11% CAGR vs. overall WFE at 9% CAGR. Deposition should also outgrow (9% CAGR), while Other WFE and Litho are in-line, and ion implant and etch lag behind. Process control intensity is rising at the leading-edge as we see larger die sizes, greater number of design starts, heterogeneous integration, 3D structures, and novel materials become increasingly common in chip production. Secularly rising intensity is most prominent in memory where HBM adds 100-200bps to overall DRAM process control share in the HSD %.

Exhibit 59: Process control is the fastest growing process step (11% CAGR) CY25-28E
WFE process step CAGRs across various industry spending periods

	Cloud/Mobile Era	COVID Cycle AI 1.0/China Buildout		AI 2.0/non-China Reshoring
	CY10-19	CY19-22	CY22-25	CY25-28
Lithography	6.0%	9.1%	16.5%	**8.6%**
Ion Implant	2.2%	23.7%	10.1%	**7.8%**
Deposition	4.9%	28.8%	5.8%	**9.4%**
Etch	10.0%	24.0%	(0.9%)	**7.6%**
Process Control	6.5%	36.6%	2.2%	**11.2%**
Other	3.8%	30.8%	2.5%	**9.0%**
Total WFE	4.2%	25.0%	5.8%	**9.0%**

Source: BofA Global Research estimates, company reports, Bloomberg, Gartner

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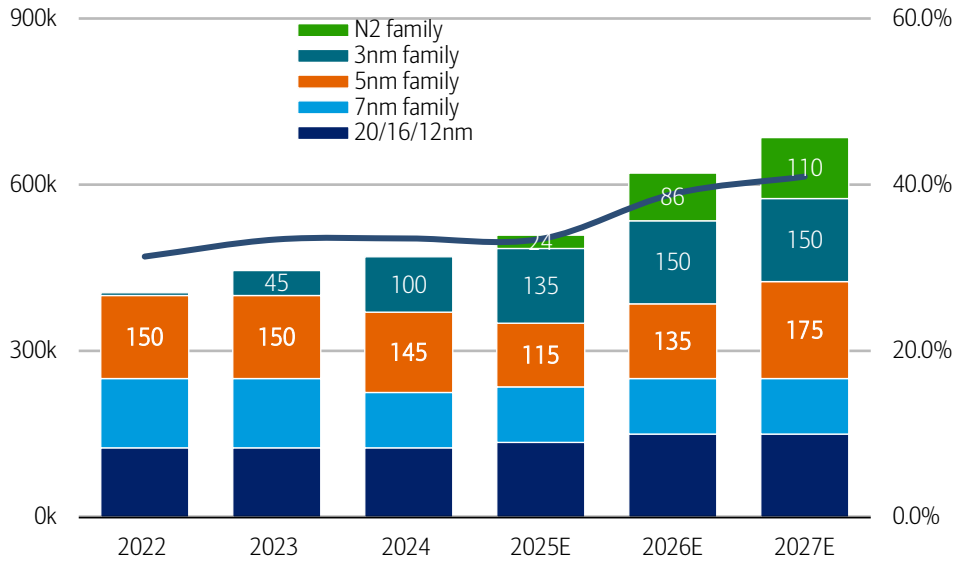
Leading-edge F/L, advanced packaging WFE is broadening

Leading-edge foundry/logic is expected to be the strongest growing device end market at 17% CY25-28E CAGR, nearly 2x overall WFE CAGR of 9%. TSMC will continue to be the most important foundry in this market as it spends nearly ~$50bn capex/year over the medium-term. Factory schedules, cleanroom space, and equipment lead times are constraints, but we do expect greater supply unlock in C2H'26.

Wafer starts for 2nm gate-all-around from TSMC alone should reach 110K wspm by CY27E to support HPC/mobile demand. Meanwhile 3nm/5nm combined capacity should also expand for surging AI accelerator orders. Importantly, we note that leading-edge supply is broadening across the foundry/IDM ecosystem with Samsung and Rapidus increasing WFE into CY26/27E while INTC spend should at least be stable.

Exhibit 60: TSMC is continuing to add sub-5nm capacity in CY26/27E
TSMC wspm capacity by node



Source: BofA TSMC model (maintained by Haas Liu)

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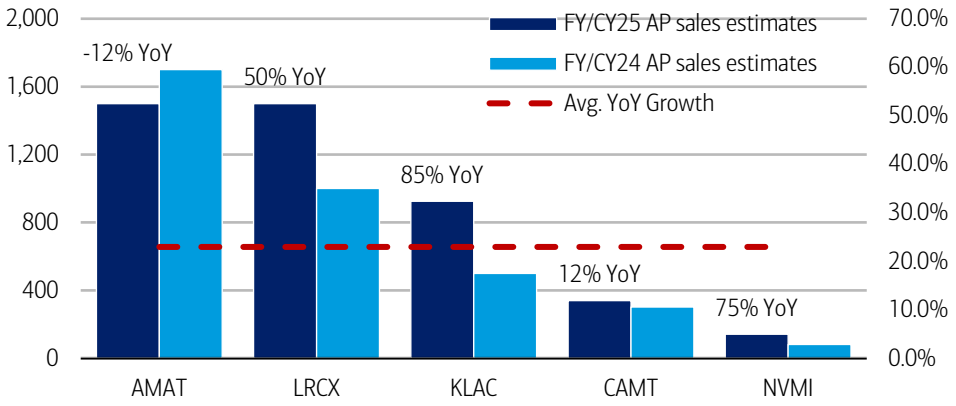
Advanced Packaging: overlooked driver of WFE outgrowth

While previously a market small enough to be a rounding error, advanced packaging sales have grown large enough for major semicaps to influence their ability to outgrow WFE. This past year, advanced packaging sales (HBM/logic) grew +22% YoY across covered semicaps, ~2x overall WFE growth.

Applications that historically were addressed by back-end tools are increasingly in need of equipment with front-end-like requirements as techniques to create CoWoS and stack HBM layers becomes increasingly complex. CoWoS and overall substrate capacity adds are the primary contributor of growth in CY25, but we expect an inflection in HBM next year as HBM4 requires 12-hi/16-hi stacks and as hybrid bonding goes mainstream. Notably, process control vendors KLAC and NVMI are generating the most advanced packaging growth this year (+85%/+75% YoY, respectively) and we expect sustained outperformance relative to peers CY26-28E.

Exhibit 61: Advanced packaging sales across the semicap coverage grew +22% YoY in CY25
Semicap advanced packaging (HBM/logic) sales in FY/CY24 and FY/CY25



Source: BofA Global Research estimates, company reports, Bloomberg; AMAT's estimates are for FY24/25

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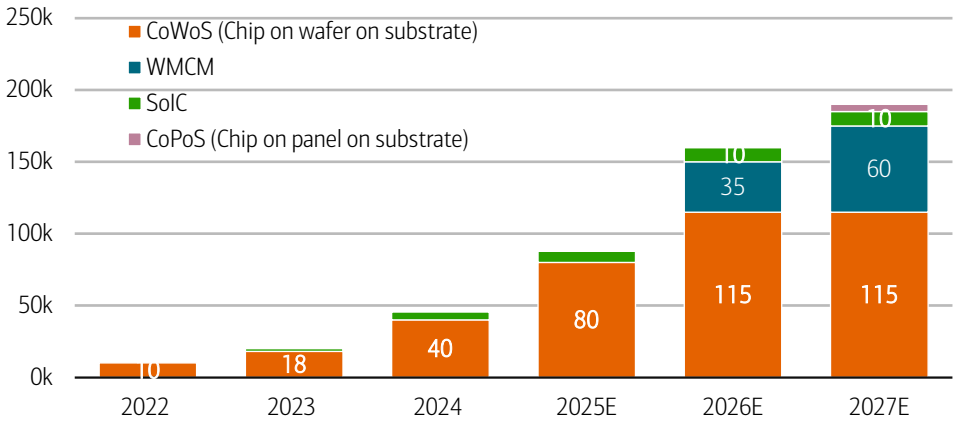
CoWoS today, WMCM, SoIC, and CoPoS on the horizon

While OSATs should play a greater role in alleviating substrate capacity, TSMC remains the dominant and most important advanced packaging supplier for AI/HPC. CoWoS represents the majority of capacity today and over the medium-term for AI accelerators. However, novel technologies like wafer-level multi-chip modules (WMCMs), SoIC (3D integration), and CoPoS (chip-on-panel-on-substrate) become more relevant CY26/27E. These transitions uphold performance, efficiency, and area gains for next-gen chips and offer entry points for semicap vendors to expand share.

Exhibit 62: CoWoS is the dominant tech today but WMCM, SoIC, and CoPoS are on the horizon
TSMC advanced packaging capacity



Source: BofA TSMC model (maintained by Haas Liu)

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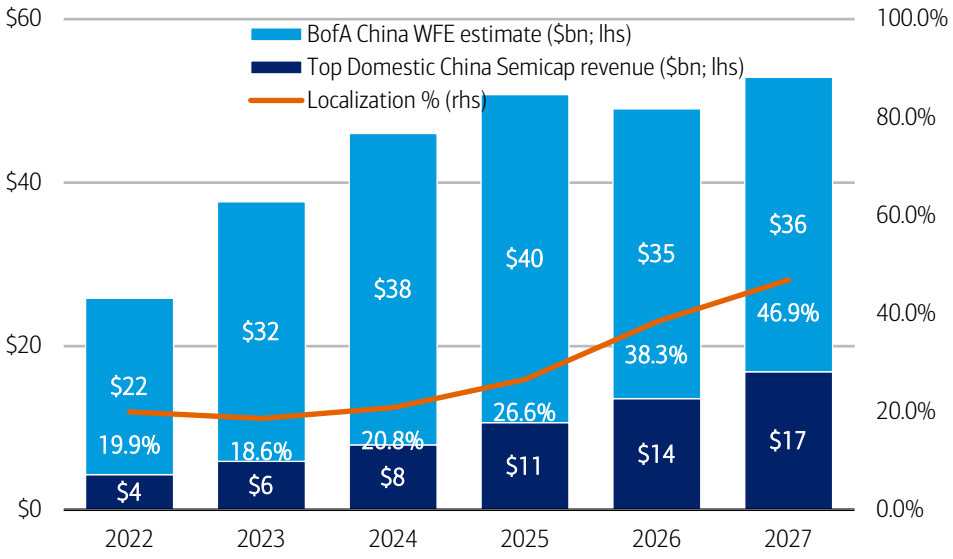
China semicaps gaining share domestically

The ongoing AI race, export controls, and national security concerns are motivations for China to continue indigenizing domestic semiconductor production until it matches consumption (China consumes ~30% of global semis). Critical to these ambitions are domestic semicap vendors which have quickly gained meaningful share of domestic WFE. Nearly doubling in 2 years, top China semicaps (AMEC, Naura, Piotec, Hwatsing, etc.) make up 27% of China WFE in CY25, up 700bps from 20% in CY22. Most Of these gains came from addressing gaps left behind by Western vendors following export controls (AMAT estimates it can no longer ship to 20% of China WFE). We expect local vendors to continue gaining share over the next 2-3 years (we estimate 47% of total China WFE by CY27E) but do not expect them to compete in the export market yet.

Exhibit 63: Local semicaps could make up 47% of China's WFE market by CY27
Revenue for top domestic China semicaps (AMEC, Naura, Hwatsing, Piotec, etc.) and share of China WFE



Source: BofA Global Research estimates, Bloomberg, company reports, Gartner

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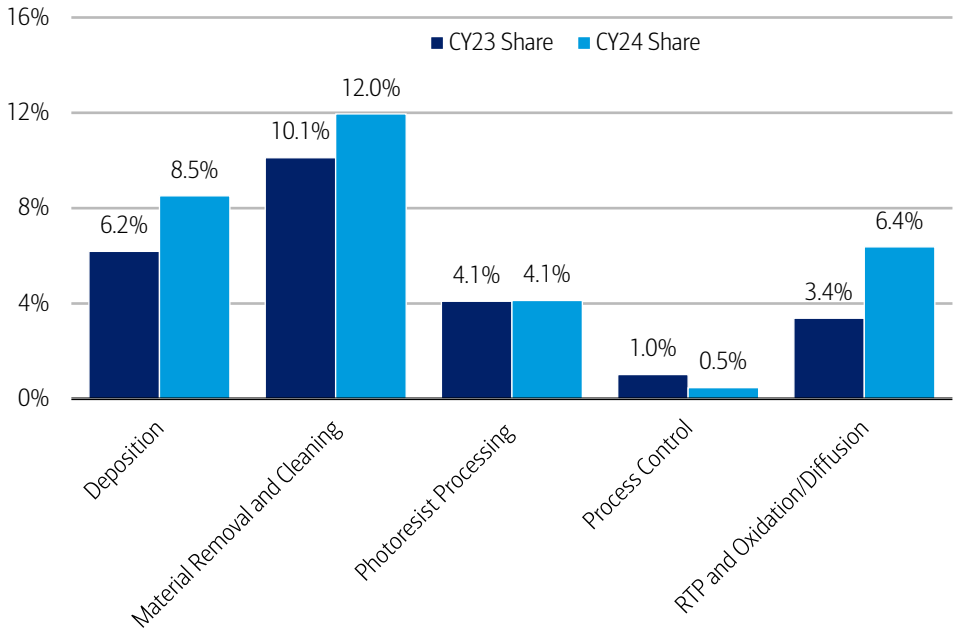
As domestic China tools become more sophisticated, we expect them to increasingly gain share in certain process step categories inside China. As a % of global share, we note China headquartered companies made the most progress in the large markets of deposition, material removal/cleaning (etch), while picking up 300bps of share in RTP and Oxidation/Diffusion. Complicated process tech like process control and litho (0% share) are more insulated from China-based competition.

Exhibit 64: China semicaps gained the most share in deposition, material removal/cleaning, and RTP
Domestic China semicap share % by process step



Source: BofA Global Research estimates, Bloomberg, company reports, Gartner

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Premium multiples reflect strong growth and FCF margins

Over the last few months, semicap stocks have been steady outperformers levered to the AI trade as recent data center deals, increasing memory market tightness, announced capacity expansions (MU, SK Hynix) benefit infrastructure suppliers. Multiples are 6%-37% above their 5-year medians on a CY27 PE basis. While this might give investors some pause, we think this re-rating is justified as:1) demand visibility is improving and in some cases stretching to CY27; 2) WFE growth is expected to be higher CY25-28E at 9% CAGR vs CY22-25E at 7% CAGR given surging semi sales; 3) FCF generation has meaningfully improved through-cycle with large US semicaps commanding analog semi-like FCF margins; 4) WFE spending is broadening across more categories and customers.

Assuming multiples eventually revert to historical norms, current valuations may be contemplating 3%-35% EPS upward revisions by CY27 (exhibit 65). Expectations seemed to have risen the most for large semicaps (AMAT/KLAC/LRCX) while increasing more modestly for most SMidcaps (MKSI, NVMI, CAMT). We think upward EPS revisions will be most impactful heading into C2H'26 as clarity around supply constraints and industry demand in CY27 emerges.

Exhibit 65: Current semicap multiples are pricing in +3%-35% EPS upgrades to CY27 consensus
Semicap multiples relative to history and implied EPS power

	Price	CY26 PE	CY27 PE	3-yr median	5-yr median	CY27 Prem vs 3-yr	CY27 Prem vs 5-yr	Implied EPS at 5-yr median	Cons. CY27 EPS	Delta %
LRCX	$160.52	31.6x	27.5x	22.5x	20.1x	22%	37%	$8.00	$5.93	34.9%
AMAT	$259.21	26.5x	22.7x	18.8x	18.3x	21%	24%	$14.18	$11.60	22.2%
KLAC	$1,193.92	30.8x	25.8x	22.9x	20.8x	13%	24%	$57.43	$46.80	22.7%
TER	$193.37	37.8x	29.0x	28.7x	25.3x	1%	15%	$7.66	$6.77	13.2%
ACLS	$85.61	18.8x	18.9x	17.1x	16.8x	10%	12%	$5.10	$4.53	12.6%
MKSI	$155.77	18.3x	16.0x	17.2x	15.2x	-7%	6%	$10.26	$9.95	3.1%
NVMI	$315.84	34.3x	30.8x	26.3x	26.8x	17%	15%	$11.80	$10.45	12.9%
AEIS	$215.07	27.5x	24.2x	21.7x	18.9x	12%	28%	$11.38	$8.82	29.0%
CAMT	$111.95	34.2x	30.0x	26.4x	25.1x	14%	19%	$4.46	$3.80	17.4%
Overall		30.8x	25.8x	22.5x	20.1x	13%	19%			

Source: BofA Global Research, Bloomberg, company reports

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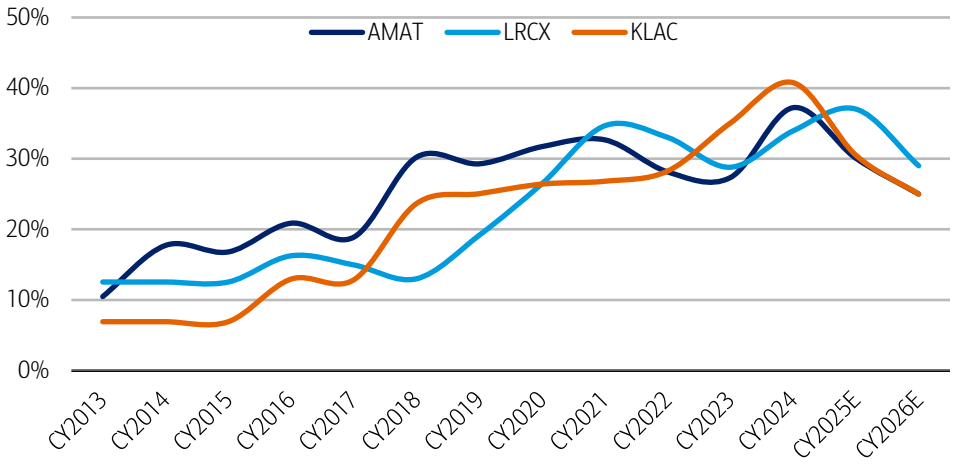
Exhibit 66: Semicap FCF generation improving from sub-15% margins CY13 to 20-30% CY25-28E
FCF margins for AMAT, LRCX, and KLAC



Source: BofA Global Research, Bloomberg, company reports

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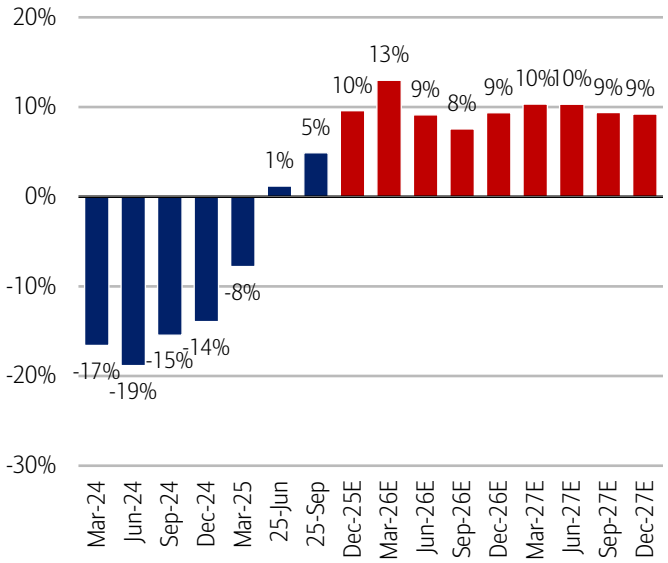
Theme 3: Diversified Semis: stable but sluggish

Despite subsector stock underperformance relative to the SOX YTD in CY25 and multiple estimate resets, we are still cautious on the diversified semi space. We anticipate attempts to rotate into cyclical names in C1H'26 as investors seek diverse exposure outside of AI but flag that the end demand environment for auto/industrial markets is mixed. Most companies have rebounded solidly off their troughs as inventory digestion both in the channel and at direct customers have completed but growth looks more stable/seasonal near-term as core demand drivers aren't strong enough to fuel restocking tailwinds for the next phase of the upcycle.

Exhibit 67: YoY sales growth should reach a peak of 13% in CQ1'26
Aggregate diversified semi sales YoY growth trends C1Q'24 to C4Q'27



Source: BofA Global Research estimates, company reports, Bloomberg

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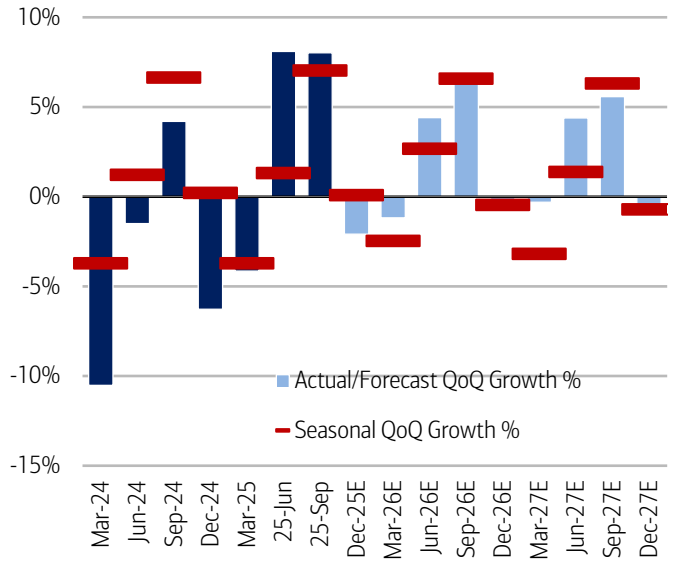
Exhibit 68: Sales in-line/sub-seasonal NT, above-seasonal C1H27
Aggregate diversified semi sales QoQ growth and T-6 year seasonality



Source: BofA Global Research estimates, company reports, Bloomberg

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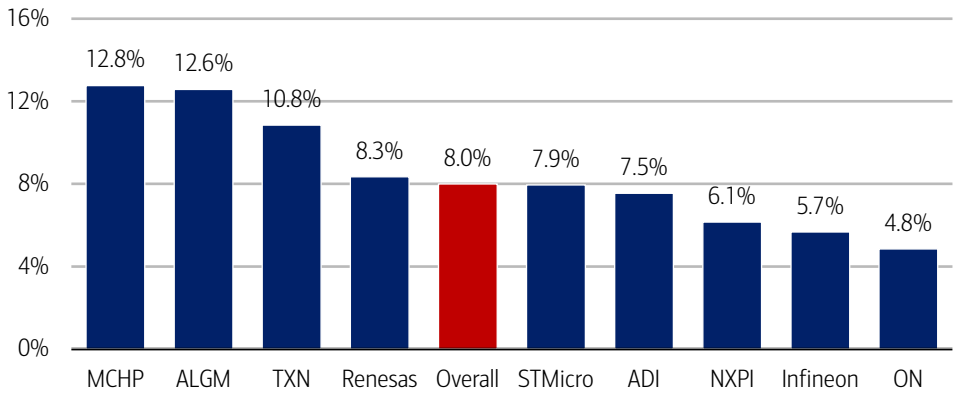
Industrial semis lead the recovery while most auto semis fall behind

The subsector is expected to grow 8% CAGR CY25-28E. On an aggregate basis, the industrial recovery is further along as it began rebounding earlier than auto while also benefitting from secular growth drivers in automation, AI/data center, aerospace and defense which offset weakness in the broad cyclical markets. Auto-biased companies (aside from ALGM, Renesas) are still weak given challenging LVP/EV unit volumes.

Exhibit 69: MCHP, ALGM, TXN, and Renesas outgrowing overall industry 8% CAGR CY25-28E
CY25-28E consensus sales CAGR across diversified semi landscape



Source: BofA Global Research estimates, company reports, Bloomberg

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Auto Semis: muted LVP units, EVs decelerating

We expect the automotive semi market to rebound +7% YoY in CY26E to $54bn (from $51bn in CY25E). Most of this growth is expected to come from content gains (+7%) and unit volumes are flat-to-slightly down. Further out, production numbers are expected to remain sluggish, but ADAS/EV content gains support our forecast for 9% CY25-28E TAM CAGR. EV units may still grow DD in CY26E but will likely decelerate from CY25E.

Exhibit 70: We expect the $51bn automotive semi market to grow at a 9% CAGR from CY25-28E
Auto semi market forecasts CY20-28E

Revenue ($bn)	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	CAGR '25-28E	CAGR '20-25	CAGR '15-25
Automotive	**$34**	**$46**	**$49**	**$59**	**$53**	**$51**	**$54**	**$60**	**$66**	**9.1%**	**8.2%**	**5.4%**
YoY%	(9.1%)	34.6%	5.4%	22.3%	(10.3%)	(4.9%)	6.6%	11.1%	9.5%			
Global Automotive Units (mn)	**74.6**	**77.2**	**82.3**	**90.5**	**88.7**	**91.2**	**90.9**	**92.1**	**92.6**	**0.5%**	**4.1%**	**0.3%**
YoY%	(16.1%)	3.5%	6.7%	9.9%	(2.0%)	2.8%	(0.3%)	1.4%	0.5%			
Auto semi content ($/LV) / Inv. Adj.	**$459**	**$597**	**$590**	**$657**	**$602**	**$556**	**$595**	**$653**	**$711**	**8.5%**	**3.9%**	**5.1%**
YoY%	8.4%	30.0%	(1.1%)	11.3%	(8.5%)	(7.5%)	7.0%	9.6%	9.0%			

Source: BofA Global Research estimates, S&P Global, Gartner, company reports, Bloomberg

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Vehicle production expected to be down CY26 as China rolls over

The biggest drag on unit volumes (per exhibit 71) is softer trends in the China market (~30% of unit TAM) which is declining -1.6% YoY after +7% YoY growth in CY25E. More broadly, we think the phase-out of BEV subsidies in China, CAFE penalties in the US, and reset of C02 regulations in Europe could challenge unit growth over the medium-term/long-term and potentially shift overall mix towards ICE vehicles which carry lower average semi content per vehicle.

Exhibit 71: Global LVP is expected to decline slightly in CY26E (-0.3%) and remain weak (<2% YoY growth) CY27/28E on challenging macro conditions
Global Light Vehicle Production (LVP) estimates by region CY19-30E

Global LV market sales	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E
Europe	20.8	16.7	16.8	15.0	17.9	18.7	18.4	18.6	18.8	19.1	19.3	18.8
US & Canada	20.3	17.1	17.7	16.5	18.7	19.5	17.9	17.4	17.6	18.0	18.2	18.4
Greater China	25.3	24.1	24.4	24.6	26.0	26.4	28.3	27.8	28.2	27.3	27.9	28.3
Japan	5.1	4.5	4.4	4.1	4.7	4.3	4.5	4.5	4.5	4.4	4.4	4.3
Korea	1.7	1.8	1.7	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6
LatAm	4.5	3.2	3.8	3.9	4.0	4.2	6.2	6.1	6.2	6.4	6.5	6.7
Others	12.2	9.6	11.6	13.3	13.8	14.1	14.3	14.7	15.3	15.9	16.4	16.8
Total	89.9	77.2	80.3	79.0	86.7	88.7	91.2	90.9	92.1	92.6	94.3	94.9
YoY growth	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E
Europe	0.7%	-19.7%	0.1%	-10.6%	19.5%	4.3%	-1.4%	1.2%	0.7%	1.7%	1.0%	-2.4%
North America	-2.0%	-15.8%	3.8%	-7.0%	13.2%	4.2%	-7.8%	-2.9%	1.2%	2.0%	1.4%	0.8%
Greater China	-8.2%	-4.5%	1.0%	0.8%	5.7%	1.7%	7.2%	-1.6%	1.2%	-3.2%	2.5%	1.4%
Japan	-1.4%	-11.5%	-3.3%	-5.1%	13.7%	-7.9%	3.5%	1.3%	-1.5%	-2.2%	0.2%	-1.4%
Korea	-2.6%	6.2%	-8.7%	-2.4%	3.3%	-6.5%	1.7%	-0.5%	-1.2%	-1.2%	-0.9%	0.7%
Latam	-4.6%	-27.8%	16.9%	2.2%	3.1%	5.4%	47.8%	-1.1%	1.1%	2.7%	2.5%	2.4%
Others	-8.3%	-20.8%	20.2%	14.9%	3.5%	2.0%	1.5%	3.2%	4.1%	3.9%	2.9%	2.8%
Total	-4.2%	-14.1%	4.0%	-1.6%	9.8%	2.3%	2.8%	-0.3%	1.4%	0.5%	1.9%	0.7%

Source: BofA Global Research estimates (maintained by Horst Schneider), S&P Global

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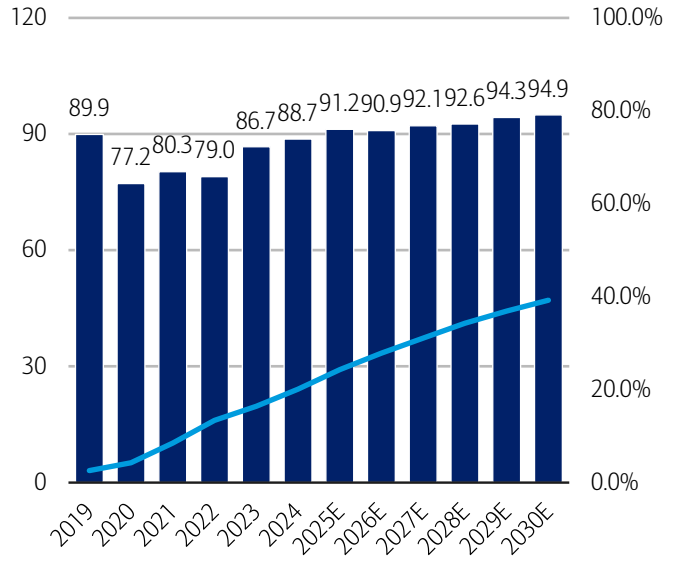
Content drivers intact giving suppliers ability to outgrow and gain share

Auto semi suppliers can still execute on growth well above lackluster unit volumes on secular content gains and potential share shifts. ON flags ~50% share in the China BEV market for SiC where the latest platforms are currently ramping. NXPI benefits from a trifecta of software-defined vehicles, radar, and battery management system (BMS) opportunities may deliver up to $2.7bn in incremental revenue through CY27E. ALGM can earn up to $100 per BEV (up from $60) if its isolated gate drivers are inserted.

xEV adoption is still strong but growth is beginning to decelerate

xEV adoption is still trending positively, expected to reach 39% globally by CY30 vs. ~24% in CY25E due to changes in consumer tastes and government emission regulations. While great for semi content in the LT, we note EV volume growth is decelerating from +24% globally in CY25 to +14% YoY in CY26 on tougher comps.

Exhibit 72: xEV (BEV + PHEV) penetration of LVP reaches 39% by CY30
Global xEV penetration



Source: BofA Global Research estimates (maintained by Horst Schneider), S&P Global

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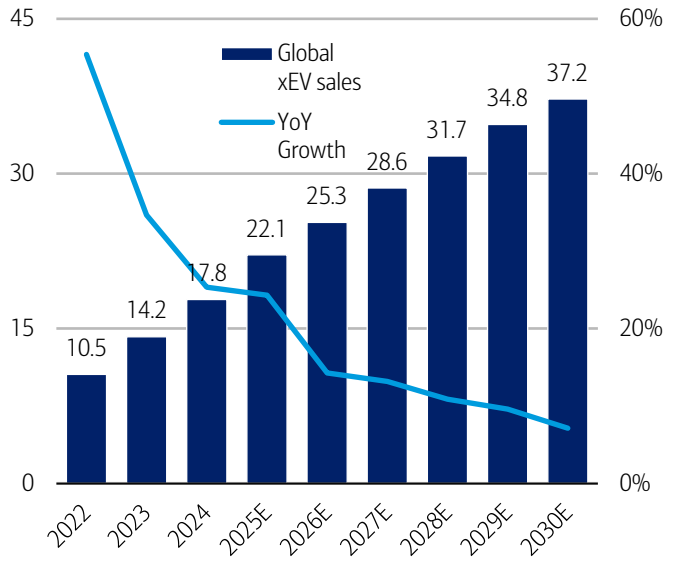
Exhibit 73: xEV growth decelerates to 14% YoY in CY26E from +24% YoY in CY25E
Global xEV volumes and YoY growth



Source: BofA Global Research estimates (maintained by Horst Schneider), S&P Global

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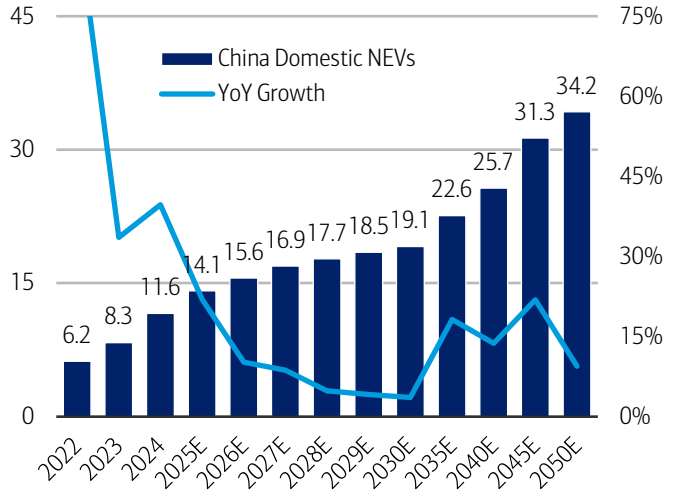
China NEV market consolidation is a key risk for suppliers

There are over 100-139 China-based EV companies active today. This makes competing in the domestic market extremely tough especially as Western OEMs are also vying for share. We expect the market to consolidate over the medium-term which could make auto semi suppliers vulnerable to any share shifts (especially at BYD). Tight OEM model cycles (typically ~1-2 years) in China also heighten the risk of being designed-out.

Exhibit 74: China NEV units lead the global deceleration in xEVs
China domestic NEV sales in units and YoY growth



Source: BofA Global Research estimates (maintained by Horst Schneider), S&P Global

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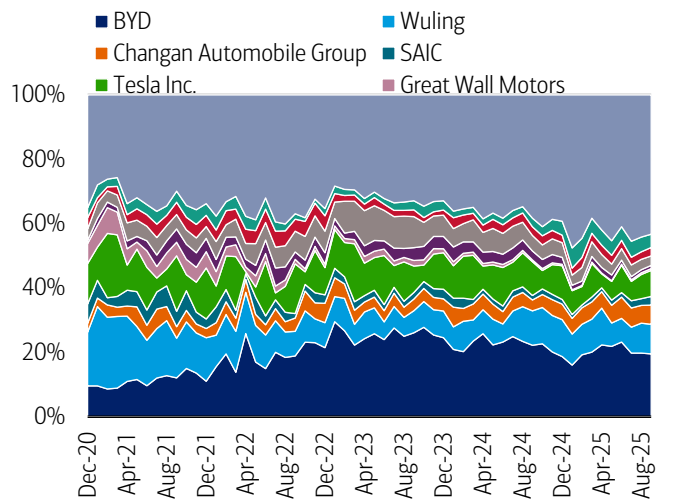
Exhibit 75: Market share in the China EV market remains volatile
China market share among top NEV OEMs since December 2020



Source: BofA Global Research estimates (maintained by Horst Schneider), S&P Global

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Industrial semis: bright spots in AI, A&D, automation

Industrial semi suppliers have advanced past the inventory correction phase and experienced a firm recovery growing double-digits YoY in CY25E. Most suppliers (with the exception of MCHP) appear to be shipping close to if not in-line with end consumption and are also awaiting restocking tailwinds. Backlog, orders, book-to-bill, and other KPIs have largely been trending positively. We expect the industrial semi market overall to grow +11.8% YoY CY26 to $56bn in CY26E. Growth between CY25-28E should be steady at a 10% CAGR. The main sources of strength are in factory automation, aerospace & defense (A&D), and AI/data centers, offsetting softness in the broad-industrial semi segment. Tepid macro demand is still a risk to the upcycle.

Exhibit 76: We expect the industrial semi market to grow at a 10% CAGR from CY25-28E
Industrial semi estimates

Revenue ($mn)	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	CAGR '25-28E	CAGR '20-25	CAGR '15-25
Industrial & Other	**$43**	**$54**	**$62**	**$59**	**$45**	**$50**	**$56**	**$62**	**$67**	**10.3%**	**3.1%**	**4.1%**
YoY%	(2.6%)	26.5%	15.3%	(4.8%)	(24.3%)	10.8%	11.8%	10.9%	8.1%			
Automation	**$10**	**$13**	**$15**	**$15**	**$12**	**$13**	**$13**	**$15**	**$17**	**9.6%**	**5.7%**	**6.2%**
YoY%	(3.0%)	29.5%	17.0%	(1.0%)	(15.0%)	3.6%	4.1%	11.6%	13.2%			
Power/Energy	**$6**	**$7**	**$9**	**$9**	**$8**	**$8**	**$8**	**$9**	**$9**	**4.8%**	**6.5%**	**6.8%**
YoY%	(0.5%)	25.4%	22.0%	5.0%	(18.0%)	4.1%	4.1%	6.2%	4.1%			

Source: BofA Global Research estimates, S&P Global, Gartner, company reports, Bloomberg

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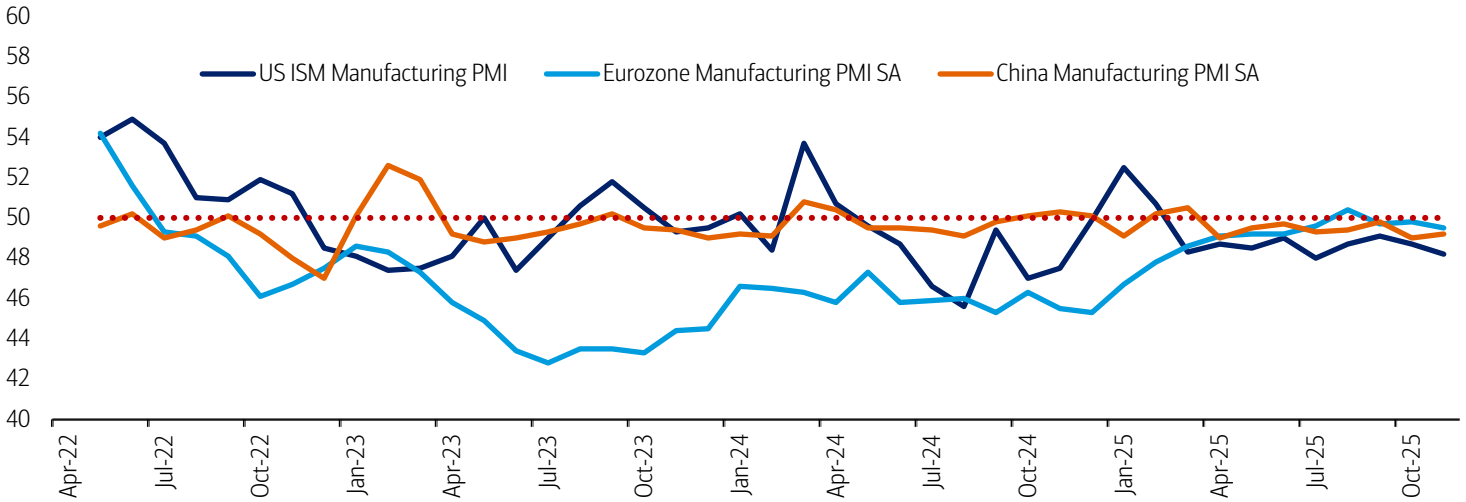
Tariff uncertainty and soft macro demand could moderate recovery potential

We sense that much of the uncertainty stemming from constant updates in tariff negotiations have weighed on sentiment making end customers less likely to invest and thus less likely to restock semi inventory. Lead times remain very short (<1 quarter), crimping visibility, and most suppliers note turns orders are at high levels. PMIs across all major geographies (US, Europe, China) are still soft and have yet to sustainably break the threshold of 50. Our view is that macro demand needs to durably improve before industrial semis can enjoy a full upturn back to where "trendline" demand is.

Exhibit 77: PMIs across all major geographies remain below 50 suggesting a lukewarm macro demand environment
Manufacturing PMIs for US, Europe, and China



Source: BofA Global Research, Institute for Supply Management Purchasing Managers' Index, S&P Global

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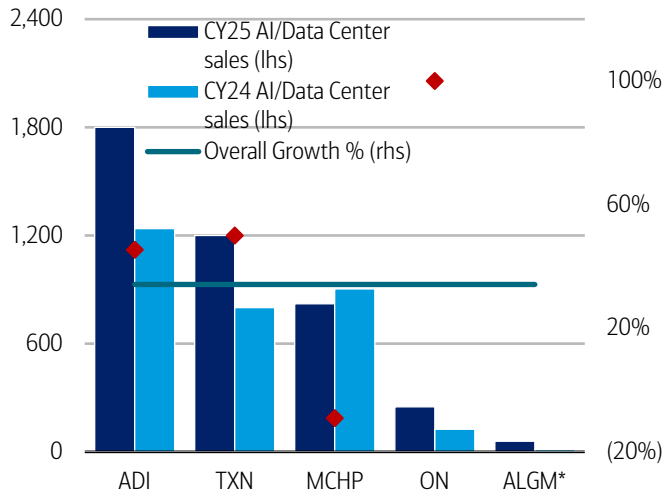
AI/Data Center: an increasingly material growth driver

Diversified semis are quickly becoming winners in the AI theme as well. What used to be a miniscule part of revenue has now swelled to 10% of overall diversified semi sales across our coverage (exhibit 79) as new data centers increasingly demand high-performance power semi solutions to maximize energy efficiency. This is tracking to +34% YoY growth across our coverage with AI sales potentially growing over +100% YoY for ON and just over +50% YoY for ADI/TXN. While most sales are for data center power products, we also note ADI's AI sales include optical transceiver and automatic test equipment (ATE) content, while ALGM's includes motor drivers for fans.

Exhibit 78: AI sales are growing an avg. of 34% across our diversified semi coverage in CY25
AI/Data Center revenues CY24/25 and YoY growth



Source: BofA Global Research estimates, company reports, Bloomberg; ALGM's AI sales grew ~400% YoY in CY25 according to our estimates

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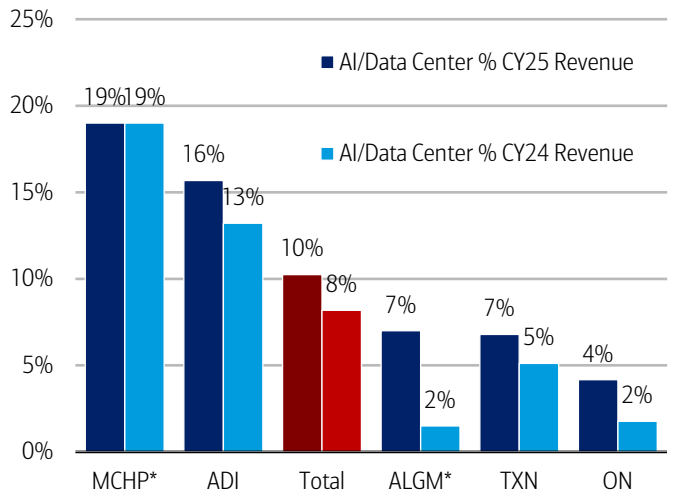
Exhibit 79: MCHP and ADI have the largest exposure to AI sales
AI/Data Center sales as a % of total revenue mix



Source: BofA Global Research estimates, company reports, Bloomberg; ALGM's AI sales grew ~400% YoY in CY25 according to our estimates; MCHP has not guided AI sales for CY25 so we assumed a similar mix to CY24 (19%)

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Most suppliers engaged with NVDA on move to 800 VDC architectures

Nvidia is transitioning away from traditional 54 V in-rack power distribution, mainly geared for kilowatt (KW)-scale racks, and towards 800 VDC power infrastructure designed to support 1 megawatt (MW) racks as the GPU roadmap enters the Rubin era. ADI, Infineon, ON, Renesas, STMicro, and TXN, among others, have been announced as partners. Exact share allocations remain to be seen, but we expect suppliers to compete in three areas: 1) protection – e.g. hot swap controllers which protect systems from sudden power charges; 2) power conversion – stepping down of voltages from 800 V to intermediate voltages like 48 V; 3) power delivery – i.e. vertical power to the accelerator.

Exhibit 80: Nvida's 800 VDC architecture reduces energy conversions which improves efficiency and reduces complexity of electrical systems for data centers
NVDA's 800 VDC architecture

Source: Nvidia

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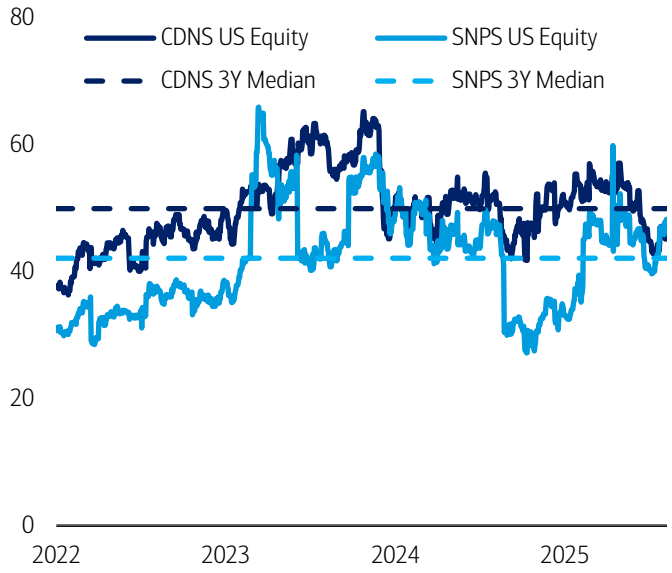
Theme 4: EDA present high-quality, low-beta exposure to secular semi R&D spend

Electronic Design Automation (EDA) software semiconductor design tool stocks: Synopsys (SNPS) and Cadence Design Systems (CDNS) remain a high-quality (~80% recurring revenue) and low-beta (~1.4 vs. ~1.9 coverage median in 2025) way to gain exposure to secularly rising chip complexity and resilient semiconductor R&D spend.

CDNS/SNPS historically double-digit growers with multiple growth cylinders

CDNS and SNPS have seen consistent double-digit EDA growth over the past 5 years (+14%/+15% CDNS/SNPS '20-'25 CAGRs) driven by broad-based semiconductor design activity across a rising AI tide and recovering non-AI markets. While recent Intel/China IP stress has dampened SNPS's near-term IP outlook, we continue to view IP as a faster growing market given IP's correlation to design starts vs. EDA scaling with engineering seats. Hardware and System Design & Analysis segments have also continued to rise in importance given increasing verification needs for advanced chips and growing % of system companies involved in semi designs. Further, we note EDA stocks have been pressured since SNPS announced their $35bn Ansys acquisition in Jan.'24 (closed Jul.'25) with lack of foreseen large-scale M&A supporting a strong 2026+ outlook in our view.

Exhibit 81: CDNS currently remains below its 3Y EV/FCF median while SNPS has risen above following recent positive earnings momentum
SNPS and CDNS EV/FCF over the last 3 years including 3-yr. medians



Source: BofA Global Research, Bloomberg

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Exhibit 82: CDNS and SNPS have reported relatively consistent double digit growth in EDA with CDNS IP outperforming SNPS IP
Summary of CDNS and SNPS EDA and IP historical segments

$m	2020	2021	2022	2023	2024	2025E	20-'25 CAGR
CDNS							
EDA	$2,308	$2,577	$3,108	$3,619	$4,036	$4,522	**14%**
IP	$375	$411	$454	$471	$605	$755	**15%**
Total	**$2,683**	**$2,988**	**$3,562**	**$4,090**	**$4,641**	**$5,277**	**14%**
YoY%							
EDA	8%	12%	21%	16%	12%	12%	
IP	28%	10%	10%	4%	28%	25%	
Total	**14%**	**11%**	**19%**	**15%**	**13%**	**14%**	
SNPS							
EDA	$2,160	$2,574	$3,291	$3,775	$4,080	$4,424	**15%**
IP	$1,269	$1,483	$1,300	$1,725	$1,816	$1,716	**6%**
Total	**$3,445**	**$4,095**	**$4,687**	**$5,595**	**$6,072**	**$6,298**	**13%**
YoY%							
EDA	8%	19%	28%	15%	8%	8%	
IP	28%	17%	-12%	33%	5%	-5%	
Total	**14%**	**19%**	**14%**	**19%**	**9%**	**4%**	

Source: BofA Global Research Estimates, Company Reports

BofA GLOBAL RESEARCH

CDNS remains top EDA pick given hardware leadership and cleaner outlook

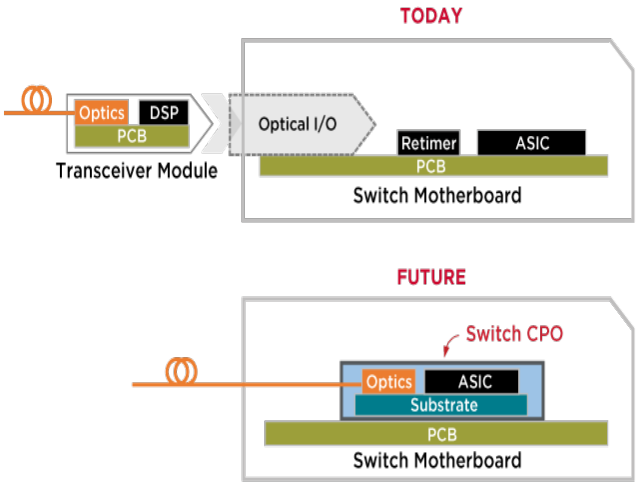
We continue to prefer CDNS over SNPS given 1) CDNS's higher profitability (~44% pf-OpM in CY25E vs. SNPS ~39%), 2) higher exposure to TSMC (#1 customer is Apple vs. SNPS #1 customer Intel), 3) lower stock-based compensation (~9% in CY25E vs. SNPS ~12%), 4) leadership in EDA hardware (ASIC driven Z3/X3 Palladium/Protium platforms considered best-in-breed), and 5) lack of large scale M&A. CDNS has seen consistent positive earnings momentum off prudent guidance, limiting funda-driven stock volatility while SNPS FY25E guidance has proved aggressive. Further, we see valuation as supportive with CDNS 45x EV/FCF recently falling below 3Y median of 50x while SNPS 48x is currently above 3Y median of 42x. However, we do also like SNPS with recent FY26E guide beatable and derisked of Intel and China uncertainty. We like SNPS's Ansys acquisition and see significant EPS accretion potential in FY27E and beyond if SNPS can manage integration costs and joint SNPS/Ansys products gain traction with customers.

Theme 5: Emerging themes include CPO, Robotics, and Quantum Computing

Co-Packaged Optics: AVGO/NVDA/MRVL to drive '26 early customer adoption

Co-packaged Optics (CPO) is an emerging networking technology approach that heterogeneously integrates optics and silicon on the same packaged substrate (see exhibit 83). CPO can circumvent technical limitations of copper interconnects and pluggable optics via tight component integration and silicon photonics, yielding higher bandwidth, lower latency, greater power efficiency, and fewer components, thus making it critical for AI scaling. While CPO is expensive to adopt, lane shipments shift towards higher speed 200G/400G scale-up in large volumes in 2026/27 are expected to drive CPO demand. COHR/LITE are well positioned as critical components suppliers (lasers and external laser source modules) which could help offset any cannibalization of their transceiver businesses. AVGO is positioning Tomahawk 6 – Davisson as an Ethernet switch with CPO for AI Networking while NVIDIA's platform approach with Spectrum-X Photonics is slated for 2H26 launch. Further, MRVL's proposed Celestial AI acquisition (1Q26 expected close) reinforces importance of CPO ahead of 2026/27 ramps.

Exhibit 83: CPO integrates optics directly onto the switch ASIC substrate giving shorter distances for signals to travel yielding improved perf.
CPO is expected to be a critical solution for next-gen AI scale up in 2026+



Source: Broadcom

BofA GLOBAL RESEARCH

Exhibit 84: Teradyne's leading advanced robotics platform is well positioned to capitalize on rising physical AI tide
NVDA's Isaac GR00T and Jetson Thor expected to further accelerate adoption

Source: Teradyne

BofA GLOBAL RESEARCH

Robotics: 2026 to accelerate scaled deployments with TER well positioned

We expect robotics/physical AI deployments to accelerate in 2026 potentially driven by a greater U.S. White House push close the automation gap to China. TER's robotics segment (~$300m 2025 sales expected) is well positioned to gain share with cobot scale (Universal Robots), autonomous mobile robot (AMR) exposure, and a US Operations Hub slated for 2026. NVDA's physical AI stack (Isaac GR00T research initiative and simulation/workflow libraries) combined with Jetson Thor edge-computing platform aims to further advance robot efficiency and drive advanced deployments in 2026/27+.

Quantum Computing: an emerging opportunity with long-term implications

While the quantum market remains small with limited advantage over GPU/CPUs achieved today, we expect leaders IonQ/IBM/etc. to continue advancing their respective platforms in 2026. We see quantum processors (QPUs) as having the potential to disrupt computing like how GPUs disrupted CPUs while NVDA's CUDA-Q quantum development platform gives NVDA exposure to complementary opportunities.

Key PO Changes

ARM: Lower PO to $145 from $205

We reiterate our Buy rating on ARM given continued smartphone/data center v9/CSS adoption and content expansion (~$0.50+/core in servers), as well as growing CPU market share in PCs and servers.

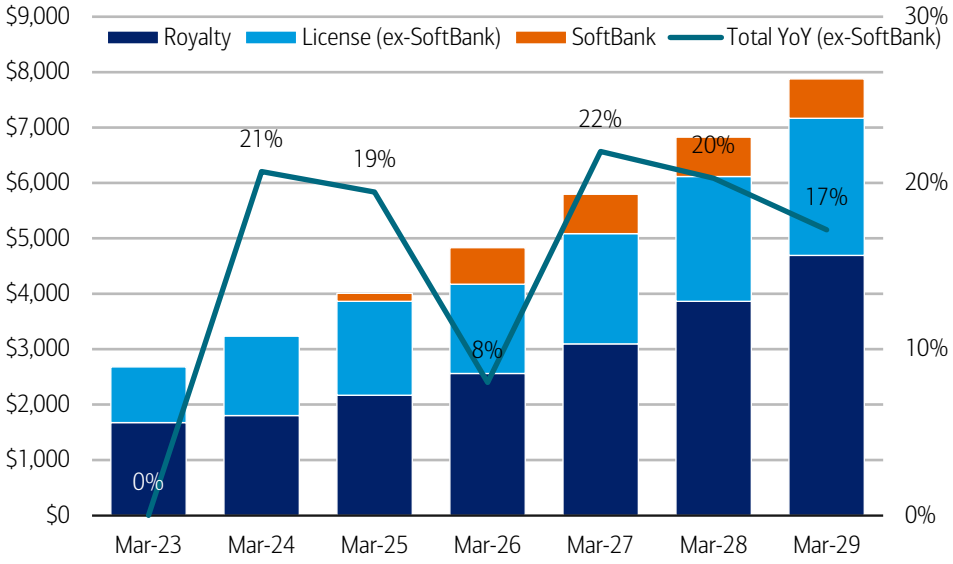
However, we lower PO to $145 from $205 given: 1) increasing SoftBank contribution/dependence to meet near-term growth outlook, and 2) limited visibility into new CPU chipset/silicon business.

Increasing SoftBank dependence

SoftBank has recently been increasingly engaging with Licensing agreement with ARM, starting at ~$50mn/qtr in FY25 but now expanded toward ~$178mn/qtr in FY26. The level of engagement has consistently increased over the past 3 quarters, essentially making up for ARM's earnings misses in the Jun'25 and Sep'25 quarters.

While we note Licensing timing tends to be lumpy in any given Q/FY, SoftBank now comprises nearly 15% of total sales in FY26E vs. just 5% throughout FY25 and could also flag circular financing concerns.

Exhibit 85: ARM sales is up only +8% YoY ex-SoftBank (vs. +21% YoY headline) in FY26E, suggesting increased SoftBank dependence to meet near-term growth expectations
ARM Royalty and License Sales Outlook excluding SoftBank Contributions



Source: BofA Global Research estimates, company reports

BofA GLOBAL RESEARCH

Limited visibility into CPU chipset/silicon design

New opportunity in designing chiplet/silicon via potential OpenAI/AVGO deal and others could significantly expand ARM's CPU TAM from just IP (~5-10% of CPU value) to the entire CPU. However, we note timing uncertainty and competitive risks (could cannibalize current IP business/customers) which could pressure the stock near-term until there is further clarity on the revenue outlook.

Valuation: PO $145 on CY27E PE or 2.5x PEG

Our $145 PO is now based on 56x CY27E PE (vs. 79x prior), still within historical 30x-111x range. Our PO also represents 2.5x PEG, which is in the middle of 2x-3x PEG framework for IP/EDA peers which we believe is justified given its sales (+21% CAGR) and EPS (+22% CAGR) growth outlook that are generally in-line with peers.

Optical Networking: Raise COHR/LITE POs

We raise POs significantly for both COHR and LITE due to outsized demand for optical transceivers and components where demand continues to exceed supply, which is extending historically short-lived cycles for 800G/1.6T ethernet units and improving power leading to structurally higher gross margins.

COHR: Raise PO to $210 from $165 on high-speed transceiver ramps

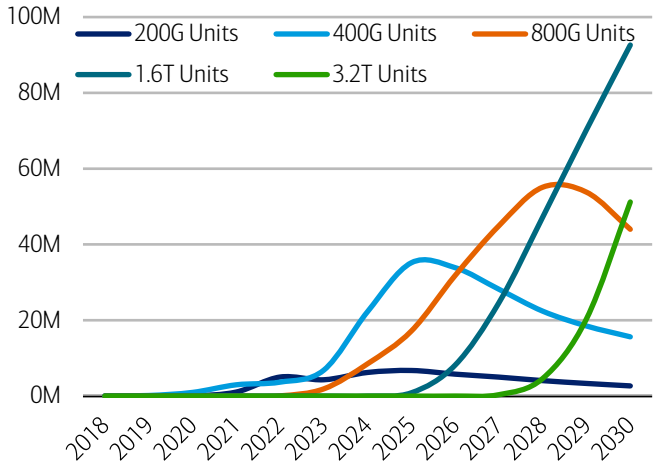
We raise our PO to $210 (now on 32x CY27E PE) from $165 (28x CY26E PE). Accelerated progress on ramping 6" substrates is enabling Coherent (COHR) to double internal supply over the next year, helping to ease critical EML shortages that have constrained output, but also unlocking faster growth in datacom (+10% QoQ/+30% YoY in DecQ). The 1.6T ramp is tracking well across a broadening customer base while 800G transceiver revenue has also strengthened into CY26. While the multiple re-rating is justified given a much larger TAM, we reiterate Neutral as current 32x NTM PE is well above 5-yr median of 21x.

LITE: Raise PO to $375 from $210 on laser, CPO, and OCS momentum

We raise our PO to $375 (on 45x CY27E PE) from $210 (30x CY26E PE). LITE's portfolio well positioned to address the massive surge in optical connectivity that is growing at a greater than 25% CAGR through CY24-29 inside a potential $30bn+ TAM. In addition to core EML laser momentum, where supply is improving, we see additional revenue upside potential from OCS, generating up to $100mn/qtr revenue by C2H'26, CPO (unquantified but likely substantial as LITE is primary supplier for NVDA), and transceivers reaching $250mn/qtr. Despite better multi-year growth prospects, as estimates have yet to catch up to a 51x NTM PE which is 2-3x the normal range. Reiterate Neutral.

Exhibit 86: 400G/800G demand is expected to sustain through 2026-27 while 1.6T units are expected to ramp meaningfully in 2027+

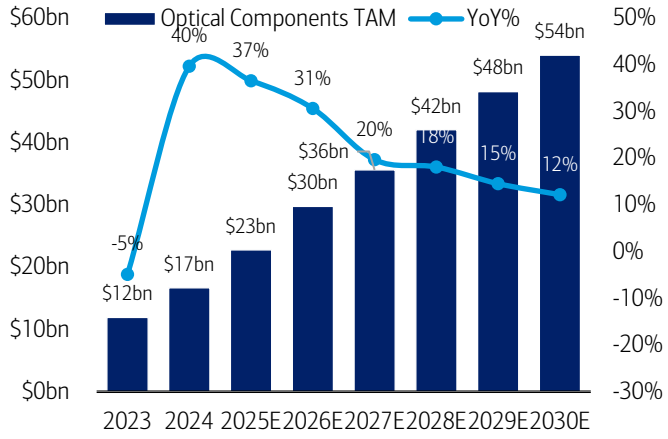
Ethernet units (M) over time by lane speed



Source: BofA Global Research, LightCounting
BofA GLOBAL RESEARCH

Exhibit 87: Optical Components TAM expected to continue strong growth through 2026-27 driven by AI infrastructure buildouts

Optical Components TAM including transceivers, AOCs, and WSS modules



Source: BofA Global Research, LightCounting
BofA GLOBAL RESEARCH

Demand is surging for indium phosphide-based EML and CW lasers as 800G and 1.6T transceiver demand ramps, and the well-known shortages in the market mean EML pricing will likely strengthen further as a result. Meanwhile, co-packaged optics (CPO) is expected to ramp more meaningfully beginning C2H'26 and more steeply into 2027 as NVDA's InfiniBand and Ethernet-based CPO switches come to market. Although CPO could drive some transceiver content loss, UHP laser ASPs of up to roughly $50 could make the overall impact at least content-neutral for LITE (and potentially for COHR as well). Separately, optical circuit switch (OCS) represents a fast-growing opportunity for COHR/LITE, with an estimated $2bn TAM (COHR) driven by use cases such as spine replacement, scale-up architectures, and redundancy.

Other PO Changes:

ADI: We raise our PO to $320 (from $290) now on 28x CY27E PE (29x CY26E PE prior), given improving CY26/27E outlook for auto/industrial semis following tariff-disrupted 2025. Our PO basis is above historical median of 26x but within the historical 14x-40x range and justified based on ADI's best-in-class profitability and differentiated/secular comms exposure, offset by near-term concerns around cost inflation and tariffs. Reiterate Buy.

AEIS: We raise our PO to $260 (from $225) now on 29x CY27E PE (29x CY26E PE prior), given AEIS's rising exposure to large scale AI infrastructure power buildouts that continue to see acceleration. Our PO basis is above the historical median of 21x and within the historical 13x-37x justified given AEIS's lower but improving margin and cash flow profiles along with rising AI infrastructure exposure. Reiterate Buy.

ALAB: We lower our PO to $170 (from $210) now on 56x CY27E PE (69x CY27E PE prior) given recent re-rating of high-growth AI compute/networking peers, as well as rising competitive concerns on PCIe/UALink vs. NVLink/ESUN. Our PO basis is near the high-end of similar high-growth compute/optical semiconductor peers trading at 18x-59x but in-line with 0.5x EV/S to sales CAGR framework given ALAB's superior sales growth outlook. Reiterate Neutral.

AMAT: We raise our PO to $300 (from $250) now on 25x CY27E PE (27x CY26E PE prior) given expanding memory capex. Our PO basis is in the upper half of AMAT's historical 10-30x trading range justified given the potential for WFE outgrowth in 2026/27E and remains at a discount to other large peers given more balanced growth profile and lower profitability. Reiterate Buy.

AMBA: We lower our PO to $85 (from $92) now on 7x CY27E EV/S (9x CY26E EV/S prior), given recent edge AI/IoT sector re-rating. Our PO basis is towards the lower end of historical 4x-19x trading range given the company's long-term growth potential in edge AI offset by near-term auto uncertainty amidst lack of significant design wins. Reiterate Neutral.

AMBQ: We lower our PO to $32 (from $35) now on 4x CY27E EV/S (5x CY26E EV/S prior), given recent edge AI/IoT sector re-rating. Our PO basis is in-line with SoC/consumer vendor peer group trading range of 2x-12x, which we believe is warranted given AMBQ's superior sales growth outlook and quickly expanding GMs offset by near/mid-term execution risks. Reiterate Neutral.

AMD: We lower our PO to $260 (from $300) now on 27x CY27E PE (32x CY27E PE prior), given recent re-rating of high-growth AI compute/networking peers, as well as recent ASIC tractions that have pressured merchant GPU vendor multiples. Our PO basis is towards the middle of AMD's historical 13x-58x range, justified by AI growth and CPU share gains offset by slower growth in cyclical embedded/console markets. Reiterate Buy.

CAMT: We raise our PO to $140 (from $128) now on 32x CY27E PE (35x CY26E PE prior), given recent semicap sector rerating. Our PO basis is near the middle of the 13x-45x historical trading range and justified given outsized multi-year AI packaging growth and long-term TAM expansion potential amidst near-term concerns around growth deceleration and rising competitive risks. Reiterate Buy.

CDNS: We maintain $400 PO but move to 44x CY27E PE from 51x CY26E PE as we extend out the model. Reiterate Buy.

CRDO: We lower our PO to $200 (from $240) now on 48x CY27E PE (70x CY26E PE prior), given recent re-rating of high-growth AI compute/networking peers, as well as continued AEC competition from ALAB/MRVL as well as limited visibility into the optical portfolio beyond AECs. Our PO basis is within the range of similar high-growth

compute/optical semiconductor peers trading 18x-60x and also in-line with 1x-2x PEG framework. Reiterate Buy.

GFS: We raise our PO to $41 (from $37) now on 9x CY27E EV/S (8x CY27E EV/S prior), given strong sole sourced design wins driven by its diversified manufacturing footprint rising in importance. Our PO basis is above Asian pure-play foundry peers but towards the middle of GFS' historical 6x-12x trading range justified by increasing pricing pressure/ competition concerns offset by diversified manufacturing footprint. Reit. Underperform.

INTC: We raise our PO to $40 (from $34) still on 3x CY27E EV/S given increased potential for external advanced packaging or wafer (small volume) design wins for Intel Foundry. Our PO basis is within the 1.7x-4x historical range which we view as appropriate given manufacturing uncertainties persist despite long-term foundry potential. Reiterate Underperform.

KLAC: We raise our PO to $1450 (from $1400) now on 35x CY27E PE (34x CY27E PE prior), given recent semicap sector rerating and potential to outgrow CY26E WFE spend. Our PO basis is towards the high end of 12x-37x historical range justified by KLAC's leading profit margin, longer lead times (resulting in greater visibility), and less cyclical topline supports a slightly high multiple vs. semicap peers (9x-32x). Reiterate Buy.

LRCX: We raise our PO to $195 (from $165) now on 33x CY27E PE (34x CY26E PE prior), given recent semicap sector rerating and potential to outgrow CY26E WFE spend. Our PO basis is near the upper end of historical 9x-40x trading range justified by ongoing memory WFE cycle, mid-teens EPS CAGR over time, etch/deposition product leadership, rising etch/deposition intensity, share gains, growing foundry/logic exposure over memory, improving prospects of NAND recovery, and robust FCF generation, offset by near-term concerns around cost inflation and tariffs. Reiterate Buy.

LSCC: We raise our PO to $74 (from $62) now on 39x CY27E PE (33x CY27E PE prior), on improved traditional server and industrial demand outlook, as well as recent re-rating of analog peers. Our PO is below LSCC's historical 5-year median of 43x given still healthy double-digit sales growth, but limited GM expansion outlook. Reiterate Underperform.

MKSI: We raise our PO to $200 (from $180) now on 16x CY27E EV/EBITDA (16x CY26E EV/EBITDA prior), given recent semicap sector rerating. Our PO basis is slightly below peers trading near 20 at the median and justified given MKSI's higher margins offset by higher leverage. Reiterate Buy.

MRVL: We lower our PO to $95 (from $105) now on 20x CY27E PE (22x CY27E PE prior), given recent re-rating of high-growth AI compute/networking peers, as well as increasing competitive concerns over Amazon/Microsoft ASIC program volume/timing. Our PO basis is below 27x historical median but still within 14x-47x range justified by continued lack of visibility in major customer ASIC projects, heightening competition, and cyclical industry risks offset by ASIC upside, networking strength, and AEC/CPO/scale-up share gains. Reiterate Neutral.

MTSI: We raise our PO to $220 (from $190) now on 44x CY27E PE (38x CY27E PE prior), given increasing traction/content in AI infrastructure buildouts. Our PO basis is towards upper end of 16x-57x trading range justified by continued data center strength, expanding margins, and stability in defense/telecom end markets offset by near term concerns around cost inflation and tariffs. Reiterate Buy.

NVMI: We raise our PO to $380 (from $360) now on 30x CY27E PE (33x CY26E PE prior), given recent semicap sector rerating. Our PO basis is towards the higher end of semicap peers 13x-31x and is justified by Nova's superior gross margin profile and unique WFE share gain potential. Reiterate Buy.

NXPI: We raise our PO to $265 (from $255) now on 20x CY27E PE (22x CY26E PE prior), given improving CY26E auto/industrial semiconductor outlook. Our PO basis is towards

higher end of 10x-22x trading range and within the range of auto/industrial peers trading 14x-24x justified given NXPI's company-specific exposures to fast-growing ADAS/EV opportunities and high-50% normalized gross margins which are above most peers with auto-biased exposures. Reiterate Buy.

ON: We raise our PO to $60 (from $56) now on 17x CY27E PE (20x CY26E PE prior), given improving CY26E auto/industrial semiconductor outlook. Our PO basis is within ON's 9x-28x trading range and within auto/industrial peers trading 14x-24x justified as it balances limited visibility into a topline and GM recovery in auto/industrial sales with ON's attractive exposures in silicon carbide and image sensing which should drive strong secular growth longer-term. Reiterate Neutral.

SWKS: We maintain $70 PO but move to 14x CY27E PE from 16x CY26E PE as we extend out the model. Reiterate Underperform.

TER: We raise our PO to $235 (from $205) now on 35x CY27E PE (31x CY27E PE prior), given improving CY26E robotics and semi test outlook with specific potential for U.S. White House robotics policy push to close the automation gap with China. Our PO basis is towards the upper end of TER's 13x-39x historical trading range and justified given TER's current trough earnings coupled with strong growth outlook from multiple drivers. Reiterate Buy.

TXN: We raise our PO $185 (from $175) now on 28x CY27E PE (30x CY26E PE prior), given improving CY26E auto/industrial semiconductor outlook. Our PO basis is toward middle of TXN's 17x-36x trading range justified given TXN's best-in-class FCF generation and returns and incremental cash flow from US CHIPS Act grants offset by near term concerns around higher capital intensity. Reiterate Underperform.

Glossary:
ACLS: Axcelis

ADI: Analog Devices

AEIS: Advanced Energy

ALAB: Astera Labs

ALGM: Allegro MicroSystems

AMAT: Applied Materials

AMBA: Ambarella

AMBQ: Ambiq

AMD: Advanced Micro Devices

ARM: ARM Holdings

AVGO: Broadcom

CAMT: Camtek

CDNS: Cadence

COHR: Coherent

CRDO: Credo

GFS: GlobalFoundries

INTC: Intel

KLAC: KLA Corporation

LITE: Lumentum

LRCX: Lam Research

LSCC: Lattice Semiconductor

MCHP: Microchip

MKSI: MKS instruments

MRVL: Marvell

MTSI: MACOM

MU: Micron

NVDA: Nvidia

NVMI: Nova Measuring Instruments

NXPI: NXP Semiconductor

ON: onsemi

SNPS: Synopsys

SWKS: Skyworks

TER: Teradyne

TXN: Texas Instruments

AI: Artificial Intelligence

WFE: Wafer Fab Equipment

LLM: Large language model

CES: Consumer Electronics Show

GTC : GPU Technology Conference

DRAM: Dynamic Random Access Memory

NAND: Not-AND

HBM: High Bandwidth Memory

Nm: nanometer

PMI: Purchasing Managers' index

EDA: Electronic Design Automation

IP: Intellectual Property

US: United States

SOX: Philadelphia Semiconductor Index

SPX: S&P500

GPU: Graphics Processing Unit

CPU: Central Processing Unit

TPU: Tensor Processing Unit

XPU: AI Accelerator

MPU: Microprocessor

MCU: Microcontroller

QPU: Quantum Processing Unit

ASIC: Application Specific Integrated Circuit

FPGA: Field Gate Programmable Array

QCOM: Qualcomm

CRUS: Cirrus Logic

WDC: Western Digital

STX: Seagate

DDR: Double Data Rate

A&D: Aerospace & Defense

PC: Personal Computer

SoC: System-on-a-Chip

TSMC: Taiwan Semiconductor Manufacturing Company

IDM: Integrated Device Manufacturer

EUV: Extreme Ultra Violet

DUV: Deep Ultra Violet

HPC: High performance compute

F/L: Foundry/logic

TAM: Total Addressable Market

SSD: Solid state drive

NIC: Network interface card

AEC: Active Electronic Cable

GW: Gigawatt

MW: Megawatt

KW: Kilowatt

VDC: Volts Direct Current

V: Volts

DC: Data Center

CSP: Cloud Service Provider

GPQA: Graduate-Level Google-Proof Q&A Benchmark

SWE: Software Engineering Benchmark

MOE: Mixture Of Experts

GPT: Generative Pre-trained Transformer

GOOGL: Google

MSFT: Microsoft

AMZN: Amazon

META: Meta

ORCL: Oracle

CRWV: CoreWeave

NBIS: Nebius Group

NVL: NVLink

Wspm: Wafer starts per month

G: Gigabyte

T: Terabyte

EML: Electro-modulated laser

DML: Direct Modulated Laser

CPO: Co-packaged Optics

OCS: Optical Circuit Switches

AOC: Active Optical Cables

WSS: Wavelength selective switching

CW: Continuous Wave

UHP: Ultra high performance

ASP: Average selling price

YMTC: Yangtze Memory Technologies

CXMT: ChangXin Memory Technologies

L: Large

2D/3D: 2 dimensional/3 dimensional

CoWoS: Chip-on-wafer-on-substrate

WMCM: Wafer Level Multi-chip Module

SoIC: System-on-an-Integrated-Chips

CoPoS: Chip-on-Panel-on-Substrate

OSAT: Outsourced Assembly and Test

AMEC: Advanced Micro-Fabrication Equipment

RTP: Rapid Thermal Processing

LVP: Light Vehicle Production

EV: Electric Vehicles

xEV: Electrified Vehicle (BEV + PHEV)

BEV: Battery Electric Vehicle

CO2: Carbon Dioxide

CAFE: Corporate Average Fuel Economy

DD: Double-digit

SiC: Silicon Carbide

BMS: Battery Management Systems

PHEV: Plug-in hybrid electric vehicles

BYD: Build Your Dreams

TSLA: Tesla

NEV: New Electric Vehicles

OEM: Original Equipment Manufacturer

ODM: Original Device Manufacturer

ADAS: Advanced Driver Assist System

ICE: Internal Combustion Engine

IONQ: IonQ

IBM: International Business Machines

Exhibit 88: Companies mentioned in this report
Companies mentioned

BofA Ticker	Bloomberg Ticker	Price	PO	Rating
ACLS	ACLS US EQUITY	$85.61	$90.00	C-3-9
ADI	ADI US EQUITY	$279.32	$320.00	B-1-7
AEIS	AEIS US EQUITY	$215.07	$260.00	B-1-7
ALAB	ALAB US EQUITY	$148.85	$170.00	C-2-9
ALGM	ALGM US EQUITY	$27.11	$36.00	C-1-9
AMAT	AMAT US EQUITY	$259.21	$300.00	B-1-7
AMBA	AMBA US EQUITY	$75.28	$85.00	C-2-9
AMBQ	AMBQ US EQUITY	$29.12	$32.00	C-2-9
AMD	AMD US EQUITY	$210.78	$260.00	C-1-9
ARM	ARM US EQUITY	$130.89	$145.00	C-1-9
AVGO	AVGO US EQUITY	$359.93	$460.00	C-1-7
CAMT	CAMT US EQUITY	$111.95	$140.00	C-1-9
CDNS	CDNS US EQUITY	$323.22	$400.00	B-1-9
COHR	COHR US EQUITY	$178.34	$210.00	C-2-9
CRDO	CRDO US EQUITY	$143.91	$200.00	C-1-9
GFS	GFS US EQUITY	$38.73	$41.00	C-3-9
INTC	INTC US EQUITY	$37.81	$40.00	C-3-9
KLAC	KLAC US EQUITY	$1,193.92	$1,450.00	B-1-7
LITE	LITE US EQUITY	$324.35	$375.00	C-2-9
LRCX	LRCX US EQUITY	$160.52	$195.00	C-1-7
LSCC	LSCC US EQUITY	$75.62	$74.00	C-3-9
MCHP	MCHP US EQUITY	$67.18	$72.00	C-2-7
MKSI	MKSI US EQUITY	$155.77	$200.00	C-1-7
MRVL	MRVL US EQUITY	$84.43	$95.00	C-2-7
MTSI	MTSI US EQUITY	$177.35	$220.00	C-1-9
MU	MU US EQUITY	$241.14	$250.00	C-2-7
NVDA	NVDA US EQUITY	$175.02	$275.00	C-1-7
NVMI	NVMI US EQUITY	$315.84	$380.00	C-1-9
NXPI	NXPI US EQUITY	$228.16	$265.00	B-1-7
ON	ON US EQUITY	$54.96	$60.00	C-2-9
SNPS	SNPS US EQUITY	$452.95	$560.00	B-1-9
SWKS	SWKS US EQUITY	$66.97	$70.00	B-3-7
TER	TER US EQUITY	$193.37	$235.00	C-1-7
TXN	TXN US EQUITY	$179.42	$185.00	B-3-7

Source: BofA Global Research

BofA GLOBAL RESEARCH

Price objective basis & risk

Advanced Energy Industries (AEIS)
Our $260 PO is based on 29x CY27E non-GAAP EPS. Our PO basis is above the historical median of 21x and within the historical 13x-37x justified given AEIS's lower but improving margin and cash flow profiles along with rising AI infrastructure exposure.

Upside risks: 1) faster than anticipated industrials market share gains, 2) faster than anticipated gross margin expansion from cyclical recovery.

Downside risks: 1) increasing exposure to more commoditized (less proprietary) end markets, 2) potential broadening of China export restrictions impacting semicap equipment customers, 3) historically cyclical nature of semiconductor capital spending.

Advanced Micro Devices, Inc (AMD)
Our $260 PO is based on 27x our 2027E non-GAAP EPS. Our PO basis is towards the middle of AMD's historical 13x-58x range, justified by AI growth and CPU share gains offset by slower growth in cyclical embedded/console markets.

Downside risks: 1) Execution on first rack-scale product (MI400 Series), 2) Timing/Magnitude of Middle East AI Projects, 3) Lumpy nature of consumer and enterprise spending that could create delays in acceptance and success of new products, 4) High reliance on one outsourced manufacturing partner, 5) Maturity of current game console cycle.

Upside risks are greater share gain potential in the PC and server processor market against competitors

Allegro Microsystems (ALGM)
Our $36 PO is based on 28x CY27E P/E, within the company's historical 17x-64x trading range, and in-line with analog semi peers. This multiple is justified given ALGM's strong positioning across key secular trends (EVs, ADAS, strategic industrial), strong gross margins, and industry-leading EPS leverage. We think CY27 is the best basis as it values the business on normalized EPS following an acute downturn.

Upside risks are: 1) Faster adoption of electric vehicles and ADAS features, driving up ALGM's overall content opportunity, 2) Topline resiliency as key markets in auto/industrial benefit from secular tailwinds, offsetting near-term cyclical risks, 3) Gross margin strength as ALGM continues to leverage fabless benefits.

Downside risks are: 1) lumpy recovery process or even a recession prolonging inventory normalization, 2) China insourcing more lagging edge components, reducing reliance on US-based firms, 3) Increased competition from sensor/power semiconductor vendors looking to enter market with 55%-60% GM potential, 4) High stock ownership by partner Sanken Electric

Ambarella (AMBA)
Our price objective of $85 is based on 7x CY27E EV/S. Our PO basis is towards the lower end of historical 4x-19x trading range given the company's long-term growth potential in edge AI offset by near-term auto uncertainty amidst lack of significant design wins.

Upside risks to our PO: Faster penetration of CV chip technology in focus automotive/security markets, and semiconductor industry consolidation.

Downside risks to our PO: US-China trade tensions which could negatively impact security camera market sales, semiconductor cyclicality, further deterioration in legacy consumer businesses, failure to successfully penetrate target auto/security markets with new computer vision chip roadmap and excess inventory.

Ambiq Micro, Inc. (AMBQ)
Our price objective of $32 is based on 4x CY27E EV/S, in-line with SoC/consumer vendor peer group trading range of 2x-12x, which we believe is warranted given AMBQ's superior sales growth outlook of +22% CY25-27E sales CAGR vs. just +14% for peers and quickly expanding GMs but near/mid-term execution risks.

Upside risks are: 1) Faster than expected development of Atomiq product line which would provide earlier access to higher classes of AI applications and less opex/capex needed while shortening the runway to profitability, 2) significant design wins in new markets leading to faster than expected topline growth, 3) gross margin strength as AMBQ exits margin-dilutive China and is able to realize 1.5-2x ASP uplift from every new generation.

Downside risks are: 1) delays to Atomiq roadmap dampening Ambiq's topline trajectory, potentially increasing opex/capex requirements on strained balance sheet resulting in further fundraising, 2) competition (currently 1 gen behind Ambiq) catching up and capturing/dual-sourcing a currently sole-sourced Ambiq socket at a large customer, 3) delays/discontinuation of product roadmaps at top customers resulting in significant revenue loss, and 4) softness in edge-AI consumer market that has remained ex-growth despite recent implementation of AI into phones, PCs.

Analog Devices Inc. (ADI)
Our $320 PO is based on 28x CY2027E P/E. Our PO basis is above historical median of 26x but within the historical 14x-40x range and justified based on ADI's best-in-class profitability and differentiated/secular comms exposure, offset by near-term concerns around cost inflation and tariffs.

Downside risks to our price objective: 1) Economic downturn, which could reduce demand for automotive, industrial products, impacting gross margins, especially given recent capital expenditures and higher fixed cost footprint. 2) Inability to realize the planned cost synergies from the Maxim combination. 3) Competition from larger vendors that have lower-cost production facilities. 4) Exposure to US-China tensions/tariffs via Chinese automotive market.

Applied Materials, Inc. (AMAT)
Our PO of $300 is based on 25x our CY27E P/E estimate. Our PO basis is in the upper half of AMAT's historical 10-30x trading range justified given the potential for WFE outgrowth in 2026/27E and remains at a discount to other large peers given more balanced growth profile and lower profitability. This multiple is still at a discount to other large peers given its more balanced growth profile and lower profitability.

Downside risks to our PO are: ongoing US government probe that we are unable to size the financial impact at this time, slower-than-expected capital spending cycle, delay in memory capacity adds, market share loss in deposition, implant, thermal, CMP, etch, or process control segments, merger & integrations risk, and macro headwinds.

Arm Holdings (ARM)
We assign a $145 PO, which is based on 56x our CY27E non-GAAP EPS. Our PO basis is towards the lower end of 44x-146x historical trading range given increasing SoftBank dependence and opex ramp offset by expanding data center content and silicon/chiplet opportunities. This basis is modestly above 2x-3x PEG framework for IP/EDA peers, though is justified, in our view, given Arm's superior growth profile.

Downside risks: 1) historically cyclical nature of semiconductor units, 2) high exposure to mature smartphone market, 3) competition against established x86 in the data center, 4) emerging competition from RISC-V in low-end consumer markets, 5) rising geopolitical tensions and deterioration of Arm China relationship, 6) ongoing Qualcomm/Nuvia litigation, 7) small trading float

Astera Labs Inc (ALAB)
Our $170 PO is based on 56x CY27E P/E. Our PO basis is near the high-end of similar high-growth compute/optical semiconductor peers trading at 18x-59x but in-line with 0.5x EV/S to sales CAGR framework given ALAB's superior sales growth outlook.

Downside risks to our PO are: (1) project delays/changes at leading customer Amazon, (2) increased competition from large cap connectivity peers Marvell/Broadcom, (3) delayed adoption of UALink-based scale-up switches or active electrical cable (AEC) products, (4) downturn in spending across hyperscalers and network operators, (5) Inability for ALAB to scale and meet demand from products beginning to ramp, (6) supply chain headwinds limiting available capacity.

Upside risks are: (1) unforeseen, accelerated engagements in PCIe- or UALink-based switching products, (2) a faster than anticipated ramp of lead customer accelerator projects leading to higher than expected ALAB products demand, (3) GM consistency/expansion over time, overcoming headwinds from an ongoing mix shift to more hardware/module products vs. chips/silicon

Axcelis Technologies (ACLS)
Our PO of $90 is based on 15x our CY27E non-GAAP EPS, adjusted for net cash. This is toward the low end of peers trading at 15x-29x and is justified, in our view, given potential synergies from the proposed Veeco merger, offset by concerns around near-term auto/EV demand/utilization and ACLS's outsized China exposure.

Downside risks: 1) potential expansion of restrictions of tool shipments from US to China which would impact its trailing-edge portfolio, 2) strong competition from larger vendors such as AMAT, 3) historically cyclical nature of semiconductor capital spending, 4) financial/integration/regulatory risks associated with the closure of proposed merger with Veeco

Upside risks: 1) faster than anticipated recovery in China SiC market demand, with a faster depletion of used tools inventory, 2) restructuring actions at certain US-based SiC suppliers potentially revitalizing competition in the market and creating more customers for ACLS, 3) greater sales synergy outlook in key ion implant + annealing, and wide bandgap (SiC + GaN) markets from the potential VECO merger, and 4) ongoing shortage in conventional DRAM (non-HBM) creating sharp demand for new ion implant tools

Broadcom Inc (AVGO)
Our $500 price objective for Broadcom is based on 33x CY27E P/E, at the upper end of its 11x-41x historical range, still in-line with 1x-2x PEG framework for high-growth compute vendors, and justified given double-digit EPS growth and best-in-semis profitability, FCF generation, and returns.

Downside risks to our price objective are: 1) semiconductor cycle risks, including sensitivity to fundamental or sentiment shifts in AI theme, 2) high exposure to Apple and Google with potential design out risks, 3) competitive risks in networking, smartphone, storage, enterprise software markets, including rising NVDA competition in networking, 4) frequent acquirer of assets, which increases financial and integration risks, and 5) large $60bn net-debt.

Cadence (CDNS)
Our $400 PO is based on 44x CY27E P/E, in upper half of historical 30x-54x trading range and justified in our view given the strategic importance of EDA in an increasingly fragmented global electronics supply chain.

Downside risks are: (1) Share loss in existing markets to primary competitors, (2) a broader economic downturn dampens semis R&D spending and corresponding spend on EDA tools and services, (3) escalation of US-China trade war limits CDNS' ability to sell to key customers, (4) semiconductor industry consolidation accelerates which could diminish customer spending power, (5) venture into adjacent system analysis market fails to meaningfully accelerate revenue growth and incremental investments suppress margin expansion.

Camtek (CAMT)
We assign a $140 PO which is based on 32x our non-GAAP CY27E EPS. Our PO basis is near the middle of the 13x-45x historical trading range and justified given outsized multi-year AI packaging growth and long-term TAM expansion potential amidst near-term concerns around growth deceleration and rising competitive risks.

Upside risks: (1) accelerated share gains vs. key competitors: Onto Innovation and KLA (2) stronger than expected electronics demand that would tighten up semiconductor capacity further, driving increased semiconductor equipment sales. (3) share gains at major customers and during critical tech inflections led by new products (4) higher capex deployed by core memory, foundry, and OSAT customers towards tools to support HBM and chiplet demand

Downside risks: (1) Slower than expected capital spending cycle. (2) heightened competition with larger vendors like KLA Corp. (3) historically cyclical nature of semiconductor capital spending, particularly on packaging equipment. (4) further restrictions on companies in China/Asia given high relative exposure, 5) Geopolitics conflicts.

Coherent Corp (COHR)
Our PO of $210 is based on 32x CY27E P/E. Our PO basis is near the upper end of historical 7x-34x trading range and justified given potential sales upside from hyperscaler upgrades and solid margin expansion opportunities under new management team.

Upside risks to our PO are 1) better than expected datacom/AI and telco capex trends, 2) cyclical recovery in industrial, auto markets, 3) faster implementation of cost cutting and restructuring measures.

Downside risks to our PO are 1) lumpy and cyclical telecom/hyperscaler capex trends, 2) sentiment around AI exposure and high volatility, 3) high debt balance which could limit operating leverage, and 4) high competition in optical transceivers potentially leading to a price war.

Credo Technology (CRDO)
Our $200 PO is based on 48x CY27E P/E. Our PO basis is within the range of similar high-growth compute/optical semiconductor peers trading 18x-60x and also in-line with 1x-2x PEG framework.

Downside risks to our PO are: (1) increased competition from large cap peers Marvell/ Broadcom, (2) delayed adoption of active electrical cable (AEC) products, (3) downturn in spending across hyperscalers and network operators, (4) Inability for CRDO to scale and meet demand from products beginning to ramp, (5) supply chain headwinds limiting available capacity.

Upside risks are: (1) unforeseen, accelerated AEC engagements, (2) sudden rebound in ramp for higher margin optical DSP products, (3) prudent opex/margin management to support EPS in downcycle.

GlobalFoundries (GFS)
Our PO of $41 is based on 9x our CY27E EV/EBITDA. Our PO basis is above Asian pure-play foundry peers but towards the middle of GFS' historical 6x-12x trading range justified by increasing pricing pressure/competition concerns offset by diversified manufacturing footprint.

Downside risks to our PO are: (1) semi industry cyclicality where foundries are more impacted in down-cycle given high fixed cost structure, (2) execution on strategic repositioning which is critical to gross margin expansion and EPS growth, (3) large ownership concentration with Mubadala, which is wholly owned by the government of Abu Dhabi adds geopolitical and investor concentration risk.

Intel (INTC)
Our $40 price objective is based on 3.5x our 2027E EV/S. Our PO basis is within the 1.7x-4x historical range which we view as appropriate given manufacturing uncertainties persist despite long-term foundry potential.

Upside risks to our price objective are 1) key external foundry packaging/wafer deals that could significantly boost sales/utilization, 2) greater than expected yields/ramps at 18A and upcoming 14A nodes, resulting in greater GM/utilization profile, 3) stronger than expected PC market from Windows 10 refresh or AI uplift, 4) geopolitical tensions boosting sentiment for domestic manufacturing asset.

Downside risks to our price objective are 1) lower than yield/ramp at Intel Foundry, particularly for its new 18A and upcoming 14A nodes, 2) lack of material external foundry customer in wafer processing, 3) weaker-than-expected trends in a mature PC market, which is largest revenue generator for Intel, 4) accelerated share loss to major CPU competitors.

KLA Corporation (KLAC)
We assign a $1450 PO based on 35x CY27E P/E. Our PO basis is towards the high end of 12x-37x historical range justified by KLAC's leading profit margin, longer lead times (resulting in greater visibility), and less cyclical topline supports a slightly high multiple vs. semicap peers (9x-32x).

Downside risks to our PO are the cyclical nature of the semiconductor capital spending and its impact on earnings, competitive price and market share issues, ability to get new products and technologies into the market in a timely manner.

Lam Research Corp. (LRCX)
We assign a $195 PO based on 33x CY27E PE. Our PO basis is near the upper end of historical 9x-40x trading range justified by ongoing memory WFE cycle, mid-teens EPS CAGR over time, etch/deposition product leadership, rising etch/deposition intensity, share gains, growing foundry/logic exposure over memory, improving prospects of NAND recovery, and robust FCF generation, offset by near-term concerns around cost inflation and tariffs.

Upside risks are tech inflections, F/L share gains, NAND upgrades.

Downside risks are slower than expected capital spending cycle, delay in memory capacity adds, market share loss in etch or clean segments, merger & integrations risk, macro headwinds, customer consolidation and China.

Lattice Semiconductor (LSCC)
Our $74 PO is based on 39x CY27E P/E, below LSCC's historical 5-year median of 43x given still healthy double-digit sales growth, but limited GM expansion outlook.

Upside risks to our PO are: 1) successful CEO transition, 2) new margin expansion and opex control initiatives, 3) faster than expected share gains in mid-range FPGA market, 4) faster than expected adoption by customers, replacing legacy ASIC and/or MCU solutions, expanding overall FPGA TAM.

Downside risks to our PO are: 1) limited traction in mid-range FPGA market due to rising competition, 2) sudden onset of industrial/FPGA inventory correction, 3) share gains by larger competitors in small FPGA market, 4) gross margin deceleration.

Lumentum Holdings (LITE)
We assign LITE a $375 PO based on 45x CY27E P/E. Our PO basis is near the higher end of 8x-50x historical range, justified given large growth opportunities in datacom chips (EML lasers, OCS, CPO), transceiver modules, and telecom (DCI/ZR), along with strong margin expansion potential to the low-40% range.

Downside risks are 1) delays in industrial and telco rebound, 2) delayed upgrades made by hyperscaler/telecom network slowing rollout of emerging high speed optical equipment, 3) competitive pressures in optical communications market weighing on price/margin, 4) consistent M&A weighing on long-term multiple.

Upside risks are 1) quick rebound in cloud activity, 2) more resilient iPhone sales trends as well as limited share loss, 3) gross margin resilience if demand comes in better than expected.

M/A-Com (MTSI)
Our $220 PO is based on a 44x CY27E P/E. Our PO basis is towards upper end of 16x-57x trading range justified by continued data center strength, expanding margins, and stability in defense/telecom end markets offset by near term concerns around cost inflation and tariffs.

Downside risks to our price objective are (1) semiconductor cyclicality driven by weak macroeconomic conditions, demand or inventory corrections, (2) large private ownership with limited public float, which could add volatility to the stock price, (3) demand fluctuations in optical, aerospace, and defense markets, and (4) high degree of leverage, which could limit M/A-Com's flexibility and ability to engage in buybacks/dividends.

Marvell Technology, Inc. (MRVL)
Our $95 PO is based on 20x FY28E/CY27E pf-EPS. Our PO basis is below 27x historical median but still within 14x-47x range justified by continued lack of visibility in major customer ASIC projects, heightening competition, and cyclical industry risks offset by ASIC upside, networking strength, and AEC/CPO/scale-up share gains.

Upside risks: 1) Faster than anticipated ramp/visibility in major custom ASIC projects, 2) Continued growth in DSP-based pluggable market, versus new LPO/LRO techs, 3) Share gains in emerging AEC/CPO/scale-up switch markets against incumbents.

Downside risks: 1) Continued lack of visibility in key custom ASIC projects, particularly in the next-gen 3nm chip at AWS, 2) Competition in AI compute, with merchant vendors continuing to proliferate and ASIC incumbent AVGO winning many of the large hyperscaler/AI customers, 3) cyclical industry risks including potential slowdown in legacy storage, enterprise networking, carrier markets.

Microchip (MCHP)

We assign a $72 PO based on 30x CY27 PE. This is well above MCHP's 5-year median of 18x and above peers trading at 17x-24x, but justified given MCHP is earlier in the earnings recovery process after an extended downturn.

Upside risks to our PO: FCF returns that are the upper end of the peer group, but not fully reflected in the company's multiple which trades at a discount to peers, inflecting/greater FCF growth going forward as MCHP deleverages its balance sheet and accelerates returns to shareholders. Downside risks to our PO: macro headwinds related to trade, increased competition capping any market share gains, tougher compares, GMs approaching the upper end of historical range and long term model.

Micron Technology, Inc (MU)
Our $250 PO is based on 2.6x our CY27E P/B, in the upper range of MU's long-term range 0.8x-3.1x as we are potentially in the memory upcycle.

Downside risks: (1) larger than expected memory ASP decline, (2) greater competition from China newcomers, (3) share loss to large competitors, (4) softening of demand across major end markets such as data center, smartphones, or PCs.

MKS Instruments (MKSI)
We assign a $200 PO, which is based on 16x our CY27E EV/EBITDA. Our PO basis is slightly below peers trading near 20x at the median and justified given MKSI's higher margins offset by higher leverage.

Downside risks: 1) historically cyclical nature of semiconductor capital spending, 2) potential broadening of China export restrictions impacting semicap equipment customers, 3) above-average debt profile following Atotech acquisition.

Nova (NVMI)
We assign a $380 PO which is based on 30x our CY27E non-GAAP EPS including stock comp and adjusted for net cash. Our PO basis is towards the higher end of semicap peers 13x-31x and is justified by Nova's superior gross margin profile and unique WFE share gain potential.

Downside risks: 1) potential restrictions on shipments of tools from US to China which would impact its X-Ray metrology portfolio, 2) strong competition from larger vendors such as KLA Corp, 3) historically cyclical nature of semiconductor capital spending.

NVIDIA Corporation (NVDA)
Our $275 PO is based on 28x CY27E PE ex cash, within NVDA's historical 25x-56x forward year PE range, which we believe is justified by NVDA's leading share in fast-growing AI compute/networking markets, offset by lumpiness in global AI projects, cyclical gaming market, and concerns around access to power.

Downside risks are: 1) weakness in consumer driven gaming market, 2) Competition with major public firms, internal cloud projects and other private companies in AI and accelerated computing markets, 3) Larger than expected impact from restrictions on compute shipments to China, or additional restrictions placed on activity in the region, 4) Lumpy and unpredictable sales in new enterprise, data center, and autos markets, 5) Potential for decelerating capital returns, and 5) Enhanced government scrutiny of NVDA's dominant market position in AI chips.

NXP Semiconductors NV (NXPI)
Our PO of $265 is based on 20x 2027E P/E. Our PO basis is towards higher end of 10x-22x trading range and within the range of auto/industrial peers trading 14x-24x justified given NXPI's company-specific exposures to fast-growing ADAS/EV opportunities and high-50% normalized gross margins which are above most peers with auto-biased

exposures.

Downside risks: 1) Semiconductor cycle risks, 2) Lumpy nature of projects in key identification segment, 3) Some exposure to and growth driven by Apple, which could add volatility, 4) Execution risk surrounding management's capability to reengage following two-year hiatus, 5) Macroeconomic supply/demand disruption. 6) Adverse effects from tariff backdrop

onsemi (ON)
Our PO of $60 PO is based on 17x 2027E P/E. Our PO basis is within ON's 9x-28x trading range and within auto/industrial peers trading 14x-24x justified as it balances limited visibility into a topline and GM recovery in auto/industrial sales with ON's attractive exposures in silicon carbide and image sensing which should drive strong secular growth longer-term. We also think this valuation credits the company's restructuring initiatives that should streamline its manufacturing and opex base.

Downside risks to our PO are 1) macro/cyclical risks, given high exposure to automotive and industrial markets, make ON susceptible to any potential global trade tensions/tariffs, 2) prolonged COVID-19 headwinds limiting pace of automotive/industrial recovery, impacting utilization levels, 3) difficulty in ramping 300mm fabrication facility limiting gross margin improvement, 4) sustained elevated capex levels relative to peers

Skyworks Solutions, Inc. (SWKS)
Our $70 PO is based on 14x CY 2027E PE (ex. stock comp expense), within the historical 8x-22x range and justified given a broad sector re-rating and anticipation around AI smartphone tailwinds

Upside risks are: (1) Share gains, (2) Sustained boost from 5G adoption, (3) semis consolidation, (4) unique M&A opportunities fueling stronger growth, (5) execution on proposed merger with QRVO.

Downside risks are: (1) Share loss from Apple (70% of sales), (2) Stronger than expected decline in YoY smartphone units, (3) Faster than expected ASP degradation given muted pricing power.

Synopsys (SNPS)
Our $560 PO is based on 32x 2027E P/E, below historical median of 36x but still within the company's historical trading range (25x-56x), justified in our view as EDA investment accelerates as chip complexity rises, despite near-term concerns around IP (including at top customer Intel), Ansys integration, and EDA demand in China.

Downside risks are (1) variability in IP/hardware sales creates issues in timing of revenue recognition, (2) competitors develop unique software capabilities displacing SNPS at core customers, (3) heightened geopolitical tensions lead to further restrictions on supplying firms in China with EDA technology, (4) uncertainty over integration of recent M&A transaction, (5) exposure to Intel headwinds.

Upside risks are (1) share gains in existing markets versus primary competitors, (2) increased government investment in semiconductor R&D and development as nations develop internal ecosystems, (3) material M&A that enables consistent margin expansion or further accelerates sales CAGR, (4) faster-than-expected cost improvements driving higher operating margin.

Teradyne (TER)
Our $235 price objective is based on 35x PE applied to our CY27E Non-GAAP EPS. Our PO basis is towards the upper end of TER's 13x-39x historical trading range and justified

given TER's current trough earnings coupled with strong growth outlook from multiple drivers.

Upside risks to our price objective are (1) accelerated adoption of leading edge compute/networking/memory test equipment, (2) improved positioning in the compute market, (3) strong momentum at Apple in the semitest business, (4) faster than expected ramp of Amazon Robotics arm.

Downside risks to our PO are weaker and lumpy AI revenue materialization from ASIC/memory customers, extended auto/industrial weakness, mobile/2nm adoption unfavorable mix, merchant GPU testing win delay/not materializing.

Texas Instruments Inc. (TXN)
Our $185 PO is based on 28x CY27E P/E. Our PO basis is toward middle of TXN's 17x-36x trading range justified given TXN's best-in-class FCF generation and returns and incremental cash flow from US CHIPS Act grants offset by near term concerns around higher capital intensity.

Risks to our price objective: 1) Macro/cyclical risks given high exposure to automotive, industrial, and telco capex markets, also makes TXN susceptible to any potential global trade tensions/tariffs, 2) Increasing capex intensity and higher depreciation burden could be a headwind to gross margins, 3) Increased R&D spending pressure to maintain an edge versus the competition, 4) Inventory cycles and potential double ordering by customers that can often create mismatches between real supply and demand, 5) exposure to several mature markets such as PC and other consumer.

Analyst Certification

We, Vivek Arya, Duksan Jang and Michael Mani, hereby certify that the views each of us has expressed in this research report accurately reflect each of our respective personal views about the subject securities and issuers. We also certify that no part of our respective compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

Special Disclosures

BofA Securities is currently acting as joint financial advisor to ABB Ltd in connection with the sale of its Robotics Division to SoftBank Group Corp, which was announced on October 8, 2025.

US - Semiconductors and Semiconductor Capital Equipment Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Advanced Energy Industries	AEIS	AEIS US	Duksan Jang
	Advanced Micro Devices, Inc	AMD	AMD US	Vivek Arya
	Allegro Microsystems	ALGM	ALGM US	Vivek Arya
	Analog Devices Inc.	ADI	ADI US	Vivek Arya
	Applied Materials, Inc.	AMAT	AMAT US	Vivek Arya
	Arm Holdings	ARM	ARM US	Vivek Arya
	Broadcom Inc	AVGO	AVGO US	Vivek Arya
	Cadence	CDNS	CDNS US	Vivek Arya
	Camtek	CAMT	CAMT US	Michael Mani
	Credo Technology	CRDO	CRDO US	Vivek Arya
	KLA Corporation	KLAC	KLAC US	Vivek Arya
	Lam Research Corp.	LRCX	LRCX US	Vivek Arya
	M/A-Com	MTSI	MTSI US	Vivek Arya
	MKS Instruments	MKSI	MKSI US	Michael Mani
	Nova	NVMI	NVMI US	Michael Mani
	NVIDIA Corporation	NVDA	NVDA US	Vivek Arya
	NXP Semiconductors NV	NXPI	NXPI US	Vivek Arya
	Synopsys	SNPS	SNPS US	Vivek Arya
	Teradyne	TER	TER US	Vivek Arya
NEUTRAL				
	Ambarella	AMBA	AMBA US	Vivek Arya
	Ambiq Micro, Inc.	AMBQ	AMBQ US	Vivek Arya
	Astera Labs Inc	ALAB	ALAB US	Vivek Arya
	Coherent Corp	COHR	COHR US	Vivek Arya
	Lumentum Holdings	LITE	LITE US	Vivek Arya
	Marvell Technology, Inc.	MRVL	MRVL US	Vivek Arya
	Microchip	MCHP	MCHP US	Vivek Arya
	Micron Technology, Inc	MU	MU US	Vivek Arya
	onsemi	ON	ON US	Vivek Arya
UNDERPERFORM				
	Axcelis Technologies	ACLS	ACLS US	Duksan Jang
	GlobalFoundries	GFS	GFS US	Vivek Arya
	Intel	INTC	INTC US	Vivek Arya
	Lattice Semiconductor	LSCC	LSCC US	Duksan Jang
	Skyworks Solutions, Inc.	SWKS	SWKS US	Vivek Arya
	Texas Instruments Inc.	TXN	TXN US	Vivek Arya
RVW				
	Wolfspeed Inc	WOLF	WOLF US	Vivek Arya

Disclosures

Important Disclosures

Equity Investment Rating Distribution: Electronics Group (as of 30 Sep 2025)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	27	45.76%	Buy	10	37.04%
Hold	18	30.51%	Hold	8	44.44%
Sell	14	23.73%	Sell	4	28.57%

Equity Investment Rating Distribution: Technology Group (as of 30 Sep 2025)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	195	51.72%	Buy	99	50.77%
Hold	103	27.32%	Hold	52	50.49%
Sell	79	20.95%	Sell	23	29.11%

Equity Investment Rating Distribution: Global Group (as of 30 Sep 2025)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	1816	53.11%	Buy	1062	58.48%
Hold	825	24.13%	Hold	480	58.18%
Sell	778	22.76%	Sell	385	49.49%

[R1] Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. VOLATILITY RISK RATINGS, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. INVESTMENT RATINGS reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster[R2]
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

[R2]Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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