Asia Technology Outlook

1. Tech cycle and dynamics update: Memory/HBM/TCB/MLCC/AAPL SC

2. Korea relative value investment thesis and idea update

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Investment Summary

Valuation and Financial metrics comparison

Company	Rating	Ticker	Mkt. cap ($, mn)	TP (LC)	PT Upside	PE (x) FY26E	PE (x) FY27E	PE (x) FY28E	Historical Average (x) L1YR	Historical Average (x) L3YR	Historical Average (x) L5YR	EPS Y-Y (%, JPMe) FY26E	EPS Y-Y (%, JPMe) FY27E	EPS Y-Y (%, JPMe) FY28E	JPM EPS vs. Consensus FY26E	JPM EPS vs. Consensus FY27E	JPM EPS vs. Consensus FY28E	PB FY26E	PB FY27E	PB FY28E	Historical Average (x) L1YR	Historical Average (x) L3YR	Historical Average (x) L5YR	ROE (%) FY26E	ROE (%) FY27E	ROE (%) FY28E
Tech																										
Samsung Electronics	OW	005930 KS	1,310,400	480,000	40%	6.9	4.9	4.0	9.8	12.9	13.1	585%	41%	23%	15.1%	21.2%	42.8%	2.8	2.0	1.4	1.6	1.3	1.3	40.0%	40.1%	35.5%
SK Hynix	OW	000660 KS	1,035,100	3,000,000	35%	7.1	5.1	4.1	5.5	23.8	18.3	436%	37%	24%	8.1%	5.0%	21.7%	4.3	2.3	1.6	2.3	1.8	1.5	60.4%	45.4%	39.8%
Kioxia	OW	285A JP	262,833	80,000	4%	8.4	6.0	4.6	8.4	7.7	7.7	802%	41%	30%	6.0%	16.7%	51.7%	10.8	4.2	2.3	3.4	2.9	2.9	128.2%	71.1%	50.8%
SEMCO	OW	009150 KS	80,744	1,450,000	-13%	87.6	42.0	31.2	23.6	17.4	15.0	109%	108%	35%	11.8%	34.9%	34.0%	12.2	9.7	7.5	2.7	1.7	1.6	13.9%	23.0%	24.2%
ISU Petasys	OW	007660 KS	6,166	185,000	44%	33.4	20.4	16.3	29.5	22.2	17.0	70%	64%	25%	5.1%	11.9%	14.9%	9.3	6.5	4.7	9.7	6.8	4.9	28.0%	32.0%	29.0%
LG Innotek	OW	011070 KS	16,671	700,000	-35%	26.8	23.5	21.2	11.9	8.5	8.4	179%	14%	11%	25.3%	21.3%	16.4%	3.8	3.3	2.9	1.1	1.0	1.2	14.1%	14.0%	13.5%
Leeno Industrial	N	058470 KS	4,747	100,000	5%	39.6	32.1	n.a.	34.5	28.5	25.9	21%	23%	n.a.	0.8%	1.3%	n.a.	8.1	6.5	n.a.	6.6	5.4	5.2	20.4%	20.3%	n.a.
Hanmi Semiconductor	UW	042700 KS	18,197	150,000	-49%	80.3	55.8	n.a.	41.7	46.7	34.1	54%	44%	n.a.	3.1%	-1.2%	n.a.	28.8	20.2	n.a.	16.6	13.2	9.4	41.6%	42.5%	n.a.
LG Display	N	034220 KS	5,252	15,000	-7%	n.a	9.5	n.a.	16.4	65.4	45.4	n.a.	n.a.	n.a.	n.a.	-10%	n.a.	1.0	0.9	n.a.	0.8	0.7	0.6	-1.6%	9.3%	n.a.
Nanya Tech	N	2408 TT	43,310	230	-42%	9.9	9.2	8.3	23.7	111.9	76.3	1766%	8%	10%	-13.6%	-22.6%	-5.2%	3.6	2.8	2.2	2.0	1.4	1.3	36.2%	30.3%	26.6%
Samsung SDS	N	018260 KS	12,807	175,000	-31%	27.1	22.1	n.a.	15.8	14.8	14.9	-5%	23%	n.a.	-1.6%	1.2%	n.a.	1.8	1.7	n.a.	1.3	1.2	1.3	6.7%	7.7%	n.a.
LG Electronics	N	066570 KS	32,743	145,000	-53%	18.8	15.8	n.a.	8.9	7.9	8.1	121%	18%	n.a.	30.6%	25.2%	n.a.	1.8	1.6	n.a.	0.7	0.7	0.8	9.4%	10.3%	n.a.
Battery/Materials																										
SKC	UW	011790 KS	4,083	72,000	-52%	n.a	n.a	n.a.	n.a.	254.3	82.9	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.7	2.9	n.a.	3.9	3.1	2.8	-11.9%	-7.2%	n.a.
Holdco																										
Samsung C&T	OW	028260 KS	52,834	570,000	14%	35.2	12.3	n.a.	15.6	11.8	12.5	-2%	186%	n.a.	-11.0%	122.0%	n.a.	1.3	1.3	n.a.	1.1	0.8	0.8	3.8%	10.3%	n.a.
SK Inc	OW	034730 KS	30,377	870,000	35%	3.2	2.2	2.1	11.2	8.9	9.1	807%	46%	7.5%	68.7%	127.4%	97.9%	0.3	0.2	0.1	0.7	0.5	0.6	10.6%	8.7%	7.0%
LG Corp	N	003550 KS	12,330	110,000	-10%	11.2	9.4	n.a.	7.4	7.0	6.6	141%	20%	n.a.	11.4%	9.1%	n.a.	0.6	0.6	n.a.	0.5	0.5	0.5	5.7%	6.5%	n.a.

Source: Bloomberg Finance L.P., Company data, J.P. Morgan estimates. Prices as of June 4th, 2026.

- **Investor positioning & feedback:** Fundamentally bullish but rising concerns on sustainability of cycle (mismatch between CSP earnings/spending vs. semi/hardware earnings). Memory continues to be core long thesis in Korea (momentum and long-term setup both favorable). Continue to focus on shortage thesis across food chain – MLCC / Substrate. Edge device demand tepid (excl. Apple) and conservative stance on CE sector unchanged. Semi related RV interest very high.

- **Memory:** Token economics, stronger AI computation demand, and heavier memory intensity server architecture drive five-year up-cycle. CPU strength is additional demand tailwind. Durability of earnings is critical point and we wait for LTA update amidst multiple re-rate. WFE spending growing but supply increase is healthy signal to debottleneck the shortage. HBM pricing upside risk high into next year. Equally positive on NAND (eSSD TAM expansion). **SEC, SK Hynix, Kioxia all OW** vs. **NYT (N)** vs. **Hanmi Semi (UW)**.

- **AI Hardware:** MLCC benefits from AI proliferation (from server) and continued EV traction, ASP tailwind likely. All segment ABF substrate seeing stronger demand and pricing. MLB demand also very strong. Stock risk-reward is different (AI exposure is key to our stock view). We have **OW on SEMCO and ISU Petasys vs. Leeno (N) and SKC (UW)**

- **Cyclical Hardware:** Improving iPhone EMS build in the near-term positive to LGIT (OW) and LGD (N), but rising BOM cost pressure could weigh on 26E margin. TV margin headwind at LGE (N).

- **Relative Value**: Little catalysts in the NT post third commercial code event. SCT (OW) a top pick on dividend income upside + SEC/Samsung Bio asset value. SK Inc (OW) while we are Neutral on LG Corp

Tech – Semi and Hardware valuations comparison

Company	Ticker	Rating	Price as of 2026-6-3	Mkt Cap (US$bn)	EV/EBITDA (x) 26E	EV/EBITDA (x) 27E	P/E(x) 26E	P/E(x) 27E	P/B (x) 26E	P/B (x) 27E	RoE (%) 26E	RoE (%) 27E	Sales growth (%) 26E	Sales growth (%) 27E	OPM (%) 26E	OPM (%) 27E	Return (%) 1M	Return (%) 3M	Return (%) YTD	ADTV ($mn) 5D	ADTV ($mn) 3M	ADTV ($mn) 6M
Semiconductor - Memory/Foundry																						
Samsung Electronics	005930 KS equity	OW	362,500	1,389.1	5.1	3.9	8.4	6.2	3.5	2.4	48.7%	42.5%	102.7%	24.8%	50.7%	55.2%	62.9	94.9	201.1	15,074	8,767	6,502
SK hynix	000660 KS equity	OW	2,324,000	1,086.4	6.0	4.2	7.9	5.6	5.1	2.7	89.4%	60.8%	240.4%	42.6%	76.4%	77.2%	79.6	159.1	256.4	16,668	7,676	5,444
Kioxia	285A JP equity	OW	79,830	272.8	40.0	6.4	84.1	9.8	34.0	9.2	52.6%	114.5%	37.0%	259.3%	35.3%	74.7%	119.3	295.2	665.0	17,380	7,732	5,496
Nanya Tech	2408 TT equity	N	402	44.2	6.8	5.4	8.7	7.2	4.0	2.6	54.1%	40.0%	300.5%	28.6%	68.9%	67.3%	86.5	56.7	108.3	1,962	1,048	845
Micron	MU US equity	OW	1,064	1,200.0	13.4	8.1	17.9	10.2	10.2	5.2	70.5%	62.7%	196.3%	63.6%	71.7%	78.5%	96.3	180.3	272.8	53,669	26,647	19,415
Western Digital	WDC US equity	OW	563	194.1	38.1	22.1	56.8	32.5	19.5	14.0	58.3%	60.6%	35.1%	37.2%	36.2%	45.9%	30.5	124.7	226.9	3,454	2,919	2,578
Seagate	STX US equity	OW	927	207.8	47.2	26.9	62.6	34.9	115.0	35.2	398.6%	158.1%	32.2%	37.0%	35.3%	45.3%	27.5	159.1	236.5	3,082	2,323	1,937
TSMC	2330 TT equity	OW	2,420	1,997.8	16.0	12.7	24.6	19.7	8.3	6.4	38.4%	36.5%	36.3%	26.6%	57.3%	56.8%	13.3	25.1	56.1	4,335	2,890	2,458
GlobalFoundries	GFS US equity	N	85	46.4	17.8	14.9	44.2	33.3	3.8	3.5	8.3%	10.2%	7.0%	10.8%	16.7%	20.4%	30.3	79.2	142.3	803	310	249
UMC	2303 TT equity	N	132	52.4	13.0	11.1	28.7	24.2	4.1	3.8	14.7%	16.4%	14.8%	13.9%	20.8%	23.8%	70.1	110.1	167.0	1,583	556	446
SMIC	981 HK equity	N	84	105.1	21.2	17.8	80.7	59.7	3.8	3.5	4.7%	5.8%	23.0%	18.0%	11.6%	13.3%	18.7	34.5	17.8	2,001	894	734
Samsung Electronics (DS only)	005930 KS equity	OW	362,500	1,389.1	5.1	3.9	8.4	6.2	3.5	2.4	48.7%	42.5%	287.7%	39.3%	69.6%	74.2%	62.9	94.9	201.1	15,074	8,767	6,502
Average				7,985.2	20.4	12.1	38.6	22.1	19.2	8.0	76.2%	55.3%	93.2%	51.1%	43.7%	50.6%	57.7	119.9	213.7	120,009	61,761	46,104
Semiconductor - WFE (back-end)																						
Hanmi Semiconductor	042700 KS equity	UW	278,500	17.4	65.3	41.7	78.7	52.4	28.2	20.6	40.1%	44.5%	39.2%	46.8%	48.7%	52.2%	-24.7	5.7	118.6	530	542	506
Hanwha Vision	489790 KS equity	NC	67,000	2.2	14.4	11.3	24.5	15.9	3.4	2.8	15.1%	18.7%	12.1%	11.0%	10.1%	12.1%	-22.8	-5.6	49.2	54	94	97
Advantest	6857 JP equity	OW	27,905	127.7	41.4	28.3	60.6	39.4	28.3	18.2	55.0%	53.2%	44.7%	31.2%	42.7%	46.0%	0.3	8.5	42.1	1,373	1,583	1,478
BE Semiconductor	BESI NA equity	OW	286	27.0	56.6	38.0	73.8	48.0	38.3	27.4	62.4%	69.7%	56.4%	37.0%	40.9%	45.5%	15.8	57.8	114.0	124	107	90
ASMPT	522 HK equity	OW	186	10.0	27.8	20.3	47.6	31.9	4.2	3.9	9.4%	12.5%	29.7%	16.9%	11.5%	14.5%	14.7	81.0	141.6	118	68	52
Kulicke & Soffa Industries Inc	KLIC US equity	NC	108	5.7	23.0	17.8	32.3	25.6	n.a	n.a	20.9%	23.9%	65.0%	19.5%	19.3%	21.4%	25.5	63.6	137.8	107	63	54
Average				190.0	38.1	26.3	52.9	35.7	20.5	14.6	33.8%	37.1%	41.2%	27.1%	28.9%	32.0%	1.5	35.2	100.6	2,308	2,457	2,275
Semiconductor - testing socket																						
Leeno Industrials	058470 KS equity	N	92,600	4.6	26.2	21.1	37.3	30.1	n.a	n.a	23.8%	25.0%	26.3%	26.2%	48.1%	47.8%	-22.1	-15.0	53.1	108	129	100
ISC	095340 KS equity	NC	211,000	2.9	35.6	25.0	49.0	34.7	7.3	6.3	15.6%	19.2%	41.7%	34.5%	32.4%	35.0%	-13.2	24.9	89.6	47	66	47
TSE	131290 KS equity	NC	198,100	1.4	11.8	9.6	n.a	n.a	4.4	3.4	26.7%	26.4%	33.4%	21.1%	26.3%	27.7%	17.6	138.4	242.7	19	15	12
WinWay Technology	6515 TT equity	NC	8,330	9.6	70.5	36.2	87.1	44.7	35.6	20.9	43.8%	53.1%	78.2%	67.4%	28.5%	34.4%	-19.8	76.1	193.3	176	111	101
Yamaichi Electronics	6941 JP equity	NC	9,990	1.3	13.1	11.9	21.9	19.1	4.0	3.4	n.a.	n.a.	16.3%	15.1%	22.1%	22.7%	-1.3	19.1	70.8	42	25	20
Yokowo	6800 JP equity	NC	5,140	0.8	13.7	9.7	39.9	25.0	2.2	1.9	5.6%	n.a	8.7%	7.7%	5.1%	7.2%	18.4	59.1	127.7	6	5	4
Average				20.6	28.5	18.9	47.0	30.7	10.7	7.2	23.1%	30.9%	34.1%	28.6%	27.1%	29.1%	-3.4	50.4	129.5	399	351	284
Hardware - MLCC																						
SEMCO	009150 KS equity	OW	1,763,000	86.4	49.6	32.9	104.1	60.3	12.7	10.7	12.7%	18.3%	19.1%	22.2%	11.8%	16.3%	111.6	356.1	590.0	5,014	1,068	659
Murata	6981 JP equity	OW	10,650	130.7	45.2	34.8	88.8	62.6	7.4	6.8	8.4%	11.3%	5.0%	7.9%	15.3%	20.0%	107.3	185.5	228.1	3,160	587	386
Yageo	2327 TT equity	OW	822	54.2	31.4	23.4	46.9	33.9	8.2	6.8	19.1%	22.8%	27.6%	23.3%	26.4%	30.0%	159.3	193.0	255.8	647	501	418
Taiyo Yuden	6976 JT equity	OW	16,835	13.7	32.5	26.5	150.0	88.0	6.5	6.1	4.6%	7.6%	4.1%	8.1%	6.1%	9.4%	174.1	277.7	375.6	2,363	332	200
Average				285.0	39.7	29.4	97.4	61.2	8.7	7.6	11.2%	15.0%	14.0%	15.4%	14.9%	18.9%	138.1	253.1	362.4	11,184	2,488	1,662
Hardware - Substrate																						
SEMCO	009150 KS equity	OW	1,763,000	86.4	49.6	32.9	104.1	60.3	12.7	10.7	12.7%	18.3%	19.1%	22.2%	11.8%	16.3%	111.6	356.1	590.0	5,014	1,068	659
Unimicron	3037 TT equity	OW	1,005	50.8	35.1	19.7	66.8	33.8	13.1	10.2	20.2%	33.0%	38.6%	40.0%	13.9%	22.6%	13.8	117.1	356.8	813	558	522
Ibiden	4062 JT equity	OW	22,030	38.8	47.9	34.8	114.4	95.8	10.7	10.2	10.5%	10.9%	12.7%	21.5%	14.9%	18.0%	64.7	155.6	227.3	1,171	579	426
Kinsus	3189 TT equity	NC	732	12.3	26.2	18.5	77.1	38.2	9.0	7.6	12.1%	19.7%	31.2%	34.5%	13.0%	18.4%	38.6	136.9	376.2	272	414	336
Average				188.3	39.7	26.5	90.6	57.0	11.4	9.7	13.7%	19.2%	23.1%	25.7%	14.5%	19.3%	57.2	191.4	387.6	7,271	2,620	1,943
Hardware - Optics																						
LG Innotek	011070 KS equity	OW	1,177,000	18.3	13.2	12.3	36.6	31.0	4.3	3.8	12.4%	12.7%	10.5%	6.6%	4.5%	4.9%	102.9	335.1	334.3	2,249	327	200
Sony	6758 JT equity	OW	3,641	135.9	8.8	8.6	19.1	17.7	2.6	2.4	13.9%	13.9%	-3.7%	1.8%	12.5%	12.9%	16.4	8.1	-9.5	591	464	451
Luxshare	002475 CH equity	OW	76	81.9	16.3	13.8	25.9	20.3	5.1	4.2	20.7%	21.9%	22.2%	16.3%	5.6%	6.2%	13.6	60.6	34.2	2,269	1,698	1,372
Sunny Optical	2382 HK equity	N	83	11.5	10.8	9.3	19.3	16.2	2.4	2.2	13.0%	13.8%	7.3%	11.1%	9.1%	9.9%	30.8	56.4	27.1	362	127	107
Largan	3008 TT equity	OW	4,025	16.8	11.8	10.9	21.7	20.1	2.6	2.5	12.3%	12.4%	7.3%	5.5%	39.0%	40.3%	60.0	64.3	61.3	161	143	110
Sharp	6753 JT equity	UW	670	2.7	7.9	8.3	7.7	11.6	2.0	1.5	27.5%	12.8%	-12.4%	-8.3%	2.5%	2.5%	15.1	9.7	-13.0	17	15	15
Genius	3406 TT equity	OW	605	2.2	6.1	6.0	17.0	15.6	2.3	2.1	14.8%	15.2%	4.5%	5.6%	19.5%	20.1%	18.9	43.5	34.6	38	29	22
Average				269.2	10.7	9.9	21.0	18.9	3.0	2.7	16.4%	14.7%	5.1%	5.5%	13.2%	13.8%	36.8	82.5	67.0	5,687	2,802	2,277
Hardware - Display																						
LG Display	034220 KS equity	N	16,690	5.5	4.6	4.4	22.8	8.9	1.1	1.0	6.5%	62.4%	-1.4%	3.0%	4.9%	5.9%	36.1	29.8	40.8	458	101	71
BOE Technology	000725 CH equity	NC	6	31.0	7.5	6.8	24.2	17.5	1.5	1.4	6.4%	7.9%	11.1%	10.1%	4.4%	5.7%	39.2	31.5	34.9	2,988	767	644
AUO	2409 TT equity	NC	29	6.9	9.7	8.7	139.6	54.6	1.4	1.4	0.9%	2.6%	3.3%	6.9%	0.5%	1.6%	67.2	82.5	134.7	423	188	154
Innolux	3481 TT equity	NC	60	15.1	14.8	13.3	n.a.	n.a.	2.1	2.1	3.5%	1.9%	18.3%	4.7%	0.8%	1.5%	148.4	129.3	249.0	1,679	648	463
Corning	GLW US equity	N	200	172.1	33.6	27.1	62.8	47.7	13.3	11.7	21.2%	25.4%	15.7%	18.9%	20.8%	22.7%	26.6	35.8	128.9	2,490	2,142	1,586
NEC	6701 JP equity	OW	4,269	36.4	11.4	10.0	23.0	19.9	2.6	2.3	12.1%	12.3%	4.7%	2.2%	9.6%	11.2%	5.8	2.4	-19.6	269	229	241
Novatek	3034 TT equity	N	504	9.8	12.1	10.7	17.5	15.6	4.2	4.0	25.5%	26.4%	5.9%	8.3%	18.7%	19.4%	23.2	32.8	34.8	123	76	61
AGC	5201 JP equity	N	8,207	11.2	7.5	7.0	20.8	17.4	1.2	1.1	5.5%	6.6%	7.6%	3.0%	6.9%	7.7%	47.2	23.5	58.0	120	58	51
Universal Display	OLED US equity	NC	94	4.4	13.9	12.8	22.6	19.0	2.5	2.3	11.2%	12.7%	-1.5%	9.4%	34.8%	36.3%	-2.7	-9.6	-19.7	65	79	81
Average				293.5	11.4	10.1	35.5	21.9	2.9	2.7	10.0%	17.8%	5.9%	6.9%	11.6%	12.7%	31.8	32.0	58.9	8,636	4,311	3,368
Hardware - MLB																						
ISU Petasys	007660 KS equity	OW	138,300	6.7	26.4	17.4	37.6	24.5	10.7	7.5	32.6%	36.6%	44.0%	38.0%	21.1%	23.8%	-7.7	25.6	16.0	272	213	192
WUS Printed Circuit	002463 CH equity	NC	133	37.8	34.4	22.9	45.9	30.8	13.6	10.2	28.9%	31.4%	39.0%	41.6%	25.5%	26.9%	29.6	74.4	81.9	1,776	1,150	955
Victory Giant	300476 CH equity	NC	359	52.2	28.9	17.0	35.9	21.2	10.4	7.5	34.9%	38.7%	73.5%	64.9%	31.8%	33.1%	9.3	26.4	24.8	2,724	2,035	1,785
TTM Technology	TTMI US equity	NC	180	18.7	28.1	22.7	44.3	33.8	9.7	8.3	21.8%	22.3%	37.7%	17.6%	13.9%	15.1%	13.0	72.6	160.3	666	301	267
Gold Circuit Electronics	2368 TT equity	NC	1,375	22.6	22.1	15.4	35.8	22.1	14.9	11.3	51.1%	58.8%	65.2%	43.0%	29.0%	32.9%	-1.1	79.5	100.1	250	269	236
Shennan Circuits	002916 CH equity	NC	382	38.4	34.8	25.5	50.5	34.9	11.9	9.0	26.2%	29.1%	31.8%	28.7%	18.6%	20.3%	22.2	41.0	64.4	939	513	447
Average				176.4	29.1	20.1	41.7	27.9	11.9	9.0	32.6%	36.1%	48.5%	39.0%	23.3%	25.3%	10.9	53.2	74.6	6,627	4,482	3,882

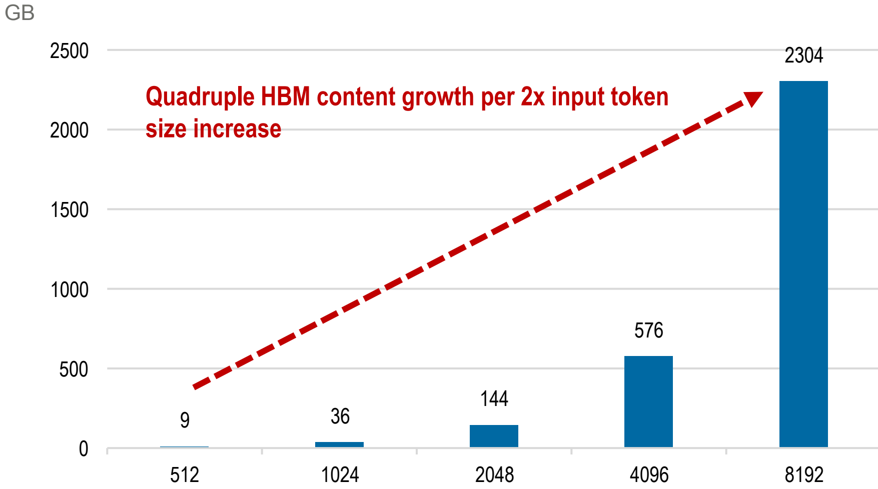
End demand outlook

End demand estimates, by major application

Unit in mn, %	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026E	2027E
Smartphone	**1,444**	**1,410**	**1,387**	**1,295**	**1,340**	**1,207**	**1,165**	**1,221**	**1,370**	**1,215**	**1,183**
AI smartphones								227	519	593	*653*
Penetration (%)								*19%*	*38%*	*49%*	*55%*
5G	-	-	20	237	549	605	651	764	880	840	880
5G mix, %	*0%*	*0%*	*1%*	*18%*	*41%*	*50%*	*56%*	*63%*	*64%*	*69%*	*74%*
OLED	328	368	406	401	545	533	580	630	660	600	620
OLED mix, %	*23%*	*26%*	*29%*	*31%*	*41%*	*44%*	*50%*	*52%*	*48%*	*49%*	*52%*
Foldable	-	-	0	2	9	13	20	28	32	46	56
NBPC+Desktop	**263**	**260**	**262**	**276**	**306**	**265**	**226**	**229**	**249**	**214**	**216**
NBPC	160	160	162	196	221	189	163	168	182	157	159
Desktop	102	100	100	80	85	76	62	61	67	57	57
AI NBPCs								8	27	39	*50*
Penetration (%)								*5%*	*15%*	*25%*	*31%*
Chromebook	13	15	16	33	35	19	17	18	19	17	17
Tablets	156	129	130	149	144	124	112	120	120	108	102
Server	**11.5**	**13.0**	**12.5**	**12.7**	**12.9**	**13.8**	**11.3**	**12.1**	**12.2**	15.6	18.9
AI Server						0.2	0.5	1.2	1.7	2.9	4.3
Penetration (%)						*1%*	*5%*	*10%*	*14%*	*19%*	*22%*
LCD TV	**214**	**219**	**220**	**220**	**207**	**197**	**196**	**199**	**198**	**196**	**198**
OLED TV (W+QD)	1.6	2.5	3.0	3.5	6.5	6.5	5.6	6.0	6.4	6.6	7.0
OLED mix of total, %	0.7%	1.1%	1.3%	1.6%	3.1%	3.2%	2.8%	2.9%	3.1%	3.3%	3.4%
PV	**94.5**	**93.1**	**89.3**	**76.6**	**80.0**	**77.0**	**85.8**	**87.8**	**88.6**	**89.7**	**91.0**
xEVs	3.8	4.4	6.2	8.5	13.8	18.9	25.3	31.5	37.1	41.9	46.5
HEV	2.2	2.6	4.0	5.4	7.3	8.6	11.5	13.9	16.0	18.1	19.8
PHEV	0.8	1.2	0.6	1.0	2.0	2.9	4.4	6.7	7.7	8.6	9.3
BEV	**0.8**	**0.6**	**1.6**	**2.1**	**4.6**	**7.4**	**9.4**	**10.9**	**13.4**	**15.2**	**17.4**
BEV+PHEV mix, %	*2%*	*2%*	*2%*	*4%*	*8%*	*13%*	*16%*	*20%*	*24%*	*27%*	*29%*
Y/Y changes, %											
Smartphone	3.2%	-2.4%	-1.6%	-6.6%	3.5%	-9.9%	-3.5%	4.8%	12.2%	-11.3%	-2.7%
AI Smartphone									128.8%	14.2%	10.2%
NBPC+MNT	-2.8%	-1.1%	1.0%	5.1%	11.2%	-13.6%	-14.8%	1.6%	8.6%	-14.0%	1.0%
NBPC	-1.1%	-0.3%	1.3%	20.9%	13.0%	-14.6%	-13.5%	3.0%	8.2%	-13.6%	1.2%
DESKTOP	-5.3%	-2.5%	0.5%	-20.4%	6.9%	-10.9%	-17.9%	-2.1%	9.8%	-15.2%	0.4%
AI NBPC									253.7%	44.5%	26.3%
Tablets	-8.2%	-17.4%	0.8%	14.8%	-3.3%	-13.8%	-10.1%	7.7%	-0.1%	-10.0%	-6.0%
Chromebook	35.7%	16.8%	9.4%	100.0%	8.2%	-45.2%	-14.2%	10.2%	6.6%	-12.3%	0.0%
Server	3.2%	13.1%	-3.2%	1.1%	1.9%	7.0%	-18.6%	7.3%	1.3%	27.1%	21.5%
AI Server							240.6%	122.2%	43.1%	74.4%	45.8%
LCD TV	-3.6%	2.5%	0.5%	0.0%	-5.9%	-4.8%	-0.5%	1.5%	-0.5%	-1.0%	1.0%
PV	1.7%	-1.4%	-4.1%	-14.2%	4.4%	-3.7%	11.4%	2.4%	0.9%	1.3%	1.5%
xEVs	55.0%	15.5%	41.8%	37.6%	62.6%	36.5%	33.9%	24.4%	18.0%	12.9%	10.9%
HEV	17.2%	19.0%	52.6%	33.5%	35.2%	18.2%	33.4%	21.2%	14.9%	13.4%	9.1%
PHEV	137.9%	51.6%	-48.5%	69.4%	95.0%	49.5%	49.6%	52.1%	15.8%	11.3%	8.8%
BEV	256.3%	-28.6%	175.1%	36.2%	116.4%	59.9%	28.4%	15.5%	23.3%	13.4%	14.2%

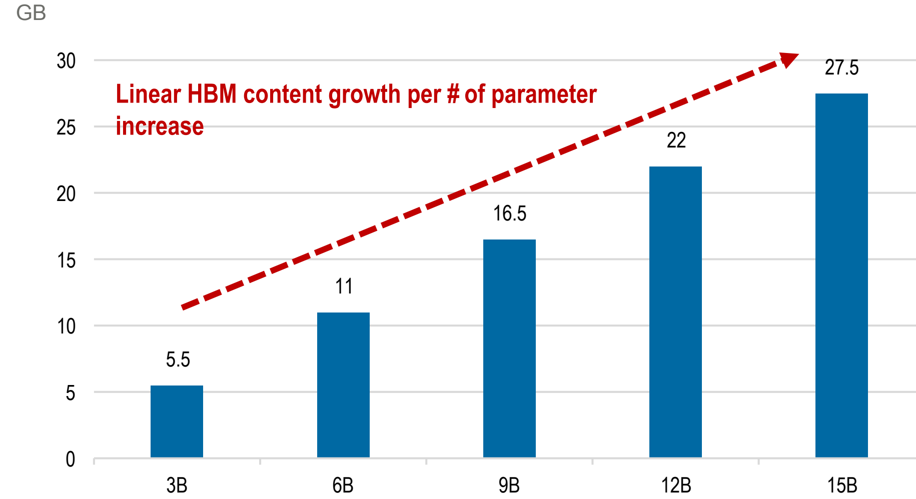
AI is the fundamental content driver beyond Memory consumption

HBM content based on tokens (AI inference, Chat GPT4, float 16)



Source: Open AI, OMDIA.

HBM content based on model size (AI Inference, float 16)



Source: Open AI, OMDIA.

What is driving more HBM content growth? Analyzing from Token increased factors

Token increased factors

Dynamic Memory/ Variable Memory

- Long Cotext
- Agent

MCP
(Model Context Protocol)

For persistently supplying Contextual information to AI Models to support memory-aware and coherent behavior over time

- Multi-modal (Text + Image + Audio/Video)

Text – Standard tokenizer
(Hundreds to a few thousand)

Image (200 to 1000 +)
Audio (1,000 to 10,000)
Video (10,000 to 100,000+)

HBM requirements

Single query/response
Token Count: 1,000
Memory usage: Baseline

MCP enabled (fixed prompt + history)
Token count: 5,000
Memory usage: 25x increase

Multimodal + MCP + task chaining
Token count: 20,000
Memory usage: 400x increase

AI is the fundamental content driver beyond Memory consumption

- New use cases unlocked: Long documents, codebases, multi-turn chats
- Less need for retrieval (RAG): All context in-memory = simpler, faster, more accurate
- Perceived intelligence boost: Longer memory = smarter AI (even without bigger models)
- Enterprise-ready capabilities: Supports legal, finance, and high-value applications
- Infra now allows it: Efficient attention + more GPU/HBM = feasible at scale

AI model – context window comparison

Vendor	Model	Cotext window*
OpenAI	GPT-3.5 Turbo	16K
	GPT-4 Turbo/4o	128K
	GPT-4.1	1M
Anthropic	Claude 2 → 2.1	100K → 200K
	Claude 3 Opus	1M
Meta	Llama 2 → 3.1	4K → 128K
	Llama 4 Scout / Maverick	10M
Google	Gemini 1.5 Pro	1M
	Gemini 2.5 Pro	2M

Source: Open AI, OMDIA.
*Note: Context window = The limit on how many tokens (pieces of text) the model can consider at once to understand and generate responses

Token count vs Self-Attention Memory Usage (FP16)**

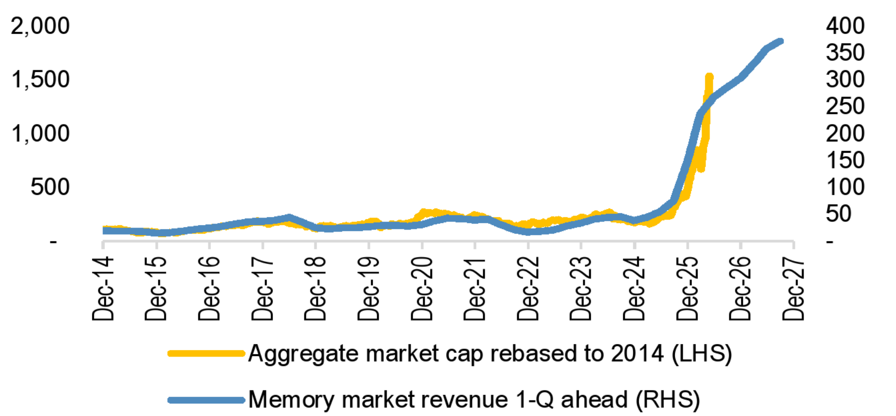
	GPT-4 Turbo/4o	GPT-4.1	Notes
Token Count	128K	1M	**~7.81x**
Memory Usage	46.9TB	2.86PB	**~61x**
Layer	96	96	Token Count^2 x hidden size x layer x Bytes per Value (FP16 → 2 bytes)
Hidden size	16,384	16,384	

Source: Open AI, OMDIA.
*Note: Self-Attention: A mechanism that allows the AI model to focus on relevant words in a sentence regardless or their position, to better understand meaning

0-1. Global Memory TAM expected to reach $1.3trn/$1.7trn in 27E/28E

Aggregate market cap vs memory market revenue (1Q ahead)

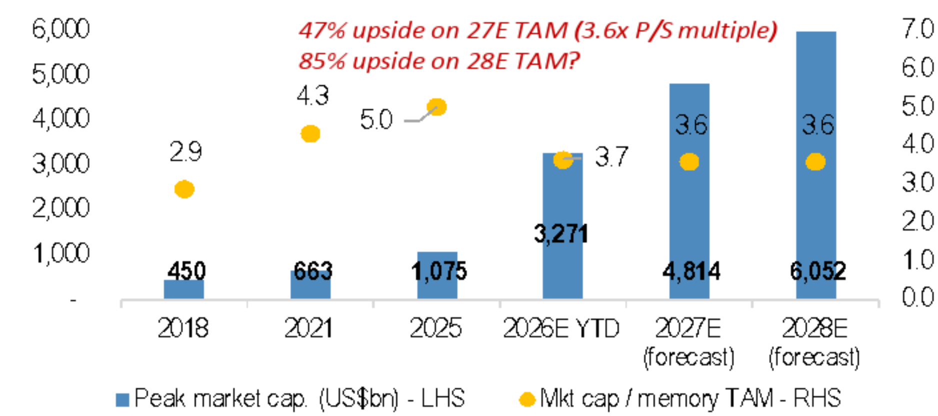
Rebased as of 1/1/2014, US$bn - RHS



Source: WSTS, OMDIA, Bloomberg Finance L.P., J.P. Morgan estimates. Note: Market cap includes SEC, SK Hynix, Micron, Nanya Technology, Kioxia, and SNDK.

Memory TAM vs. peak mkt cap/TAM analysis

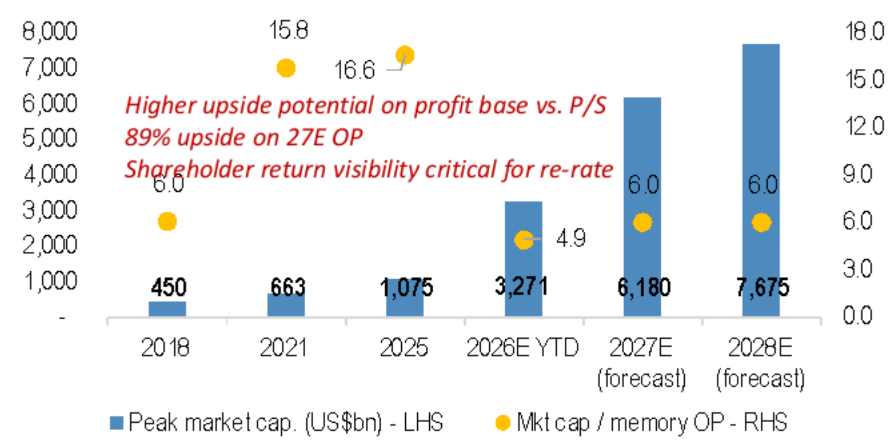
US$bn, peak mkt cap/TAM (x)



Source: Bloomberg Finance L.P., WSTS, Company data, J.P. Morgan estimates. Note: only considered SEC, SKH, and MU market cap.

Memory TAM vs. peak mkt cap/memory OP analysis

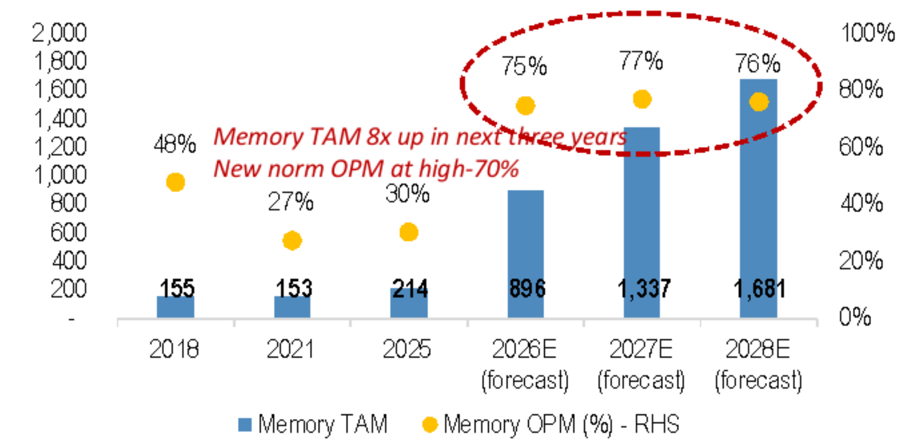
US$bn, peak mkt cap/TAM (x)



Source: Bloomberg Finance L.P., WSTS, Company data, J.P. Morgan estimates. Note: only considered SEC, SKH, and MU market cap.

Memory TAM vs. Memory OPM

US$bn, peak mkt cap/TAM (x)

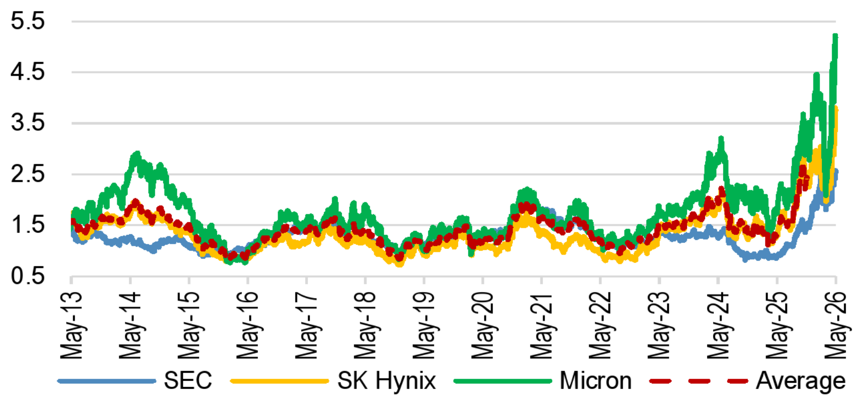


Source: Bloomberg Finance L.P., WSTS, Company data, J.P. Morgan estimates. Note: only considered SEC, SKH, and MU market cap.

0-2. Memory key share price drivers

Memory peers – FTM P/B comparison

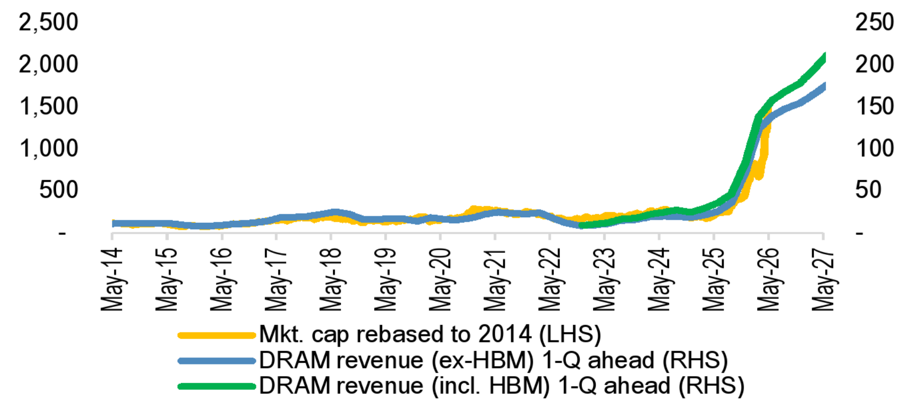
FTM P/B (x)



Source: Bloomberg Finance L.P.

SEC/SKH/Micron market cap vs. DRAM revenue comparison (1Q-ahead)

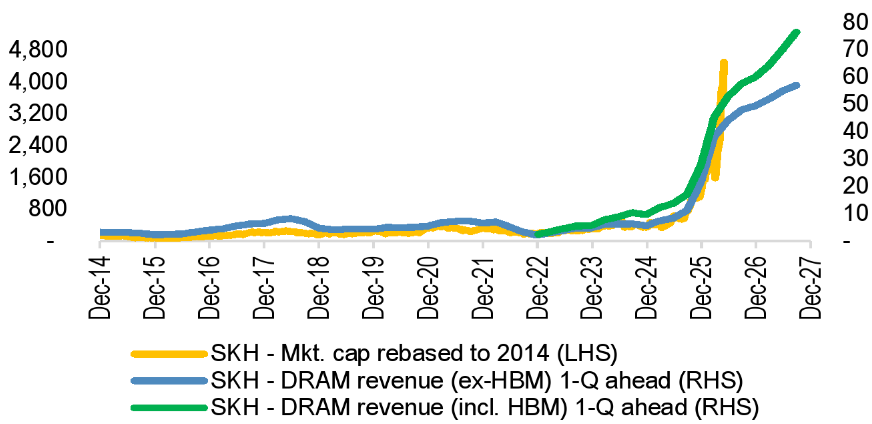
Rebased as of 1/1/2014, US$bn-RHS



Source: Company data, Bloomberg Finance L.P, J.P. Morgan estimates.

SKH market cap vs DRAM revenue comparison (1Q ahead)

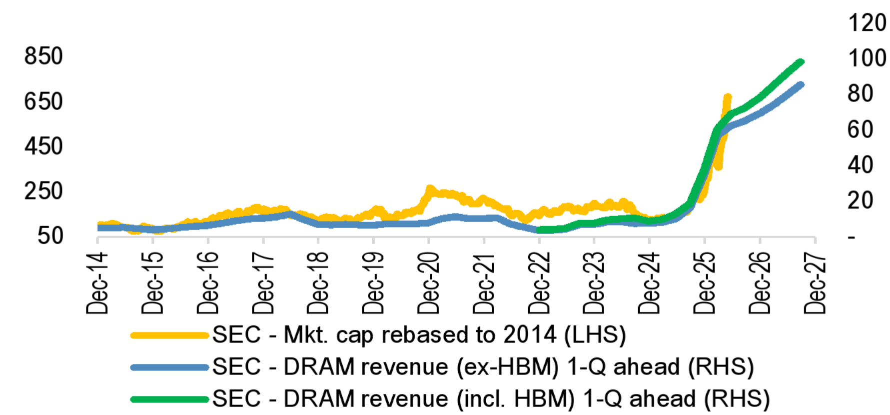
Rebased as of 1/1/2014, US$bn-RHS



Source: Company data, Bloomberg Finance L.P., J.P. Morgan estimates. Note: 2Q26 onwards are J.P. Morgan estimates.

SEC market cap vs DRAM revenue comparison (1Q ahead)

Rebased as of 1/1/2014, US$bn-RHS

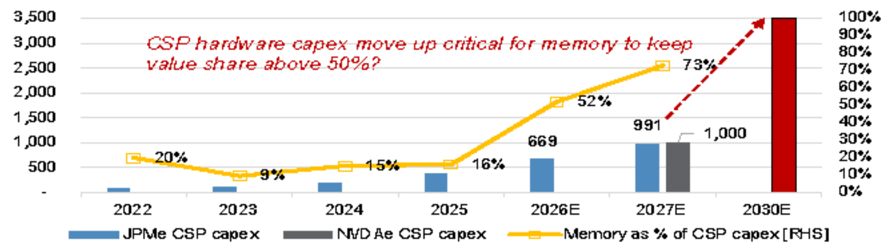


Source: Company data, Bloomberg Finance L.P., J.P. Morgan estimates. Note: 2Q26 onwards are J.P. Morgan estimates.

1. Memory to reach ~50% share in CSP capex in 26E

CSP capex and AI memory % share

US$bn, % - RHS



Source: Company data, Bloomberg Finance L.P., J.P. Morgan estimates

OPM comparison across AI ecosystem partners

%

OPM comparison	2022	2023	2024	2025	2026E	2027E	2028E
CSP Cloud	29%	29%	35%	36%	37%	38%	39%
AI Semi	39%	49%	57%	57%	63%	64%	63%
Memory	23%	-30%	26%	36%	76%	75%	72%
Foundry	46%	40%	42%	49%	56%	55%	56%

Source: Company data, J.P. Morgan estimates, Bloomberg Finance L.P. *note: Memory OPM includes both DRAM and NAND.

Market cap changes across AI ecosystem partners (US$bn, %)

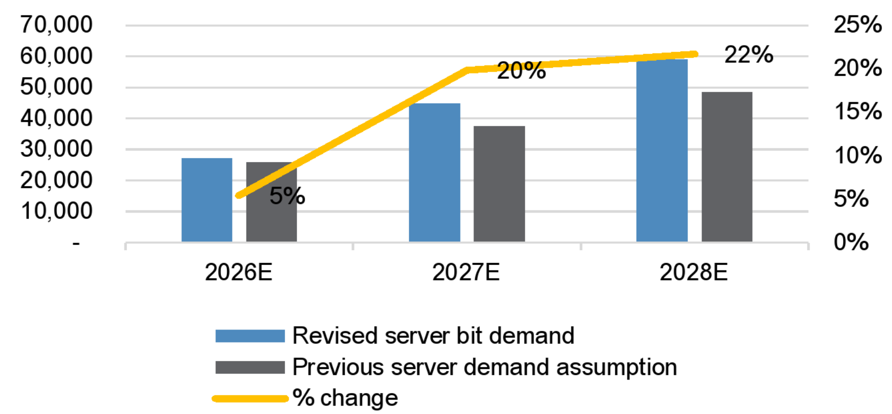
US$bn	Top 4 CSP	AI semi	Foundry	Memory	AI ecosystem mkt cap.	SOX	NASDAQ index	DOW Jones index
1Q24	8,122	3,226	632	595	12,575	5,795	39,807	5,254
2Q24	8,871	4,109	772	623	14,376	6,991	39,119	5,460
3Q24	8,652	4,113	784	491	14,039	6,900	42,330	5,762
4Q24	9,243	4,667	850	395	15,156	7,306	42,544	5,882
1Q25	8,162	3,651	711	423	12,947	6,040	42,002	5,612
2Q25	10,027	5,448	940	557	16,972	8,481	44,095	6,205
3Q25	10,979	6,427	1,111	721	19,238	10,022	46,398	6,688
4Q25	11,508	6,594	1,280	1,145	20,526	10,608	48,063	6,846
1Q26	9,907	6,122	1,424	1,411	18,863	10,738	46,342	6,529
2Q26YTD	12,435	8,233	1,948	3,369	25,986	15,469	50,669	7,564
% chagnes								
2Q24	9%	27%	22%	5%	14%	21%	-2%	4%
3Q24	-2%	0%	1%	-21%	-2%	-1%	8%	6%
4Q24	7%	13%	8%	-19%	8%	6%	1%	2%
1Q25	-12%	-22%	-16%	7%	-15%	-17%	-1%	-5%
2Q25	23%	49%	32%	31%	31%	40%	5%	11%
3Q25	9%	18%	18%	30%	13%	18%	5%	8%
4Q25	5%	3%	15%	59%	7%	6%	4%	2%
1Q26	-14%	-7%	11%	23%	-8%	1%	-4%	-5%
2Q26YTD	26%	34%	37%	139%	38%	44%	9%	16%
mkt cap. mix within the AI ecosystem								
1Q24	65%	26%	5%	5%	100%			
2Q24	62%	29%	5%	4%	100%			
3Q24	62%	29%	6%	3%	100%			
4Q24	61%	31%	6%	3%	100%			
1Q25	63%	28%	5%	3%	100%			
2Q25	59%	32%	6%	3%	100%			
3Q25	57%	33%	6%	4%	100%			
4Q25	56%	32%	6%	6%	100%			
1Q26	53%	32%	8%	7%	100%			
2Q26YTD	48%	32%	7%	13%	100%			

Source: Bloomberg Finance L.P., Note: 1) Top 4 CSP includes GOOG/MSFT/AMZN/META;; 2) AI semi includes NVDA/AMD/AVGO/MRVL; 3) Foundry includes TSMC; 4) Memory includes

2-1. CPU fuels higher for longer memory upcycle; Raise server demand by 20%+ in 27E+

Server bit demand forecast changes

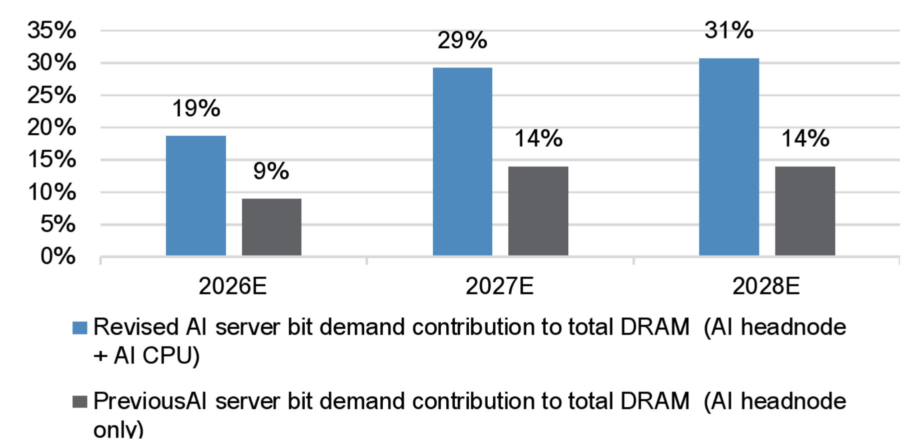
8Gb equiv. Mn, % - RHS



Source: J.P. Morgan estimates.

AI server bit demand contribution changes

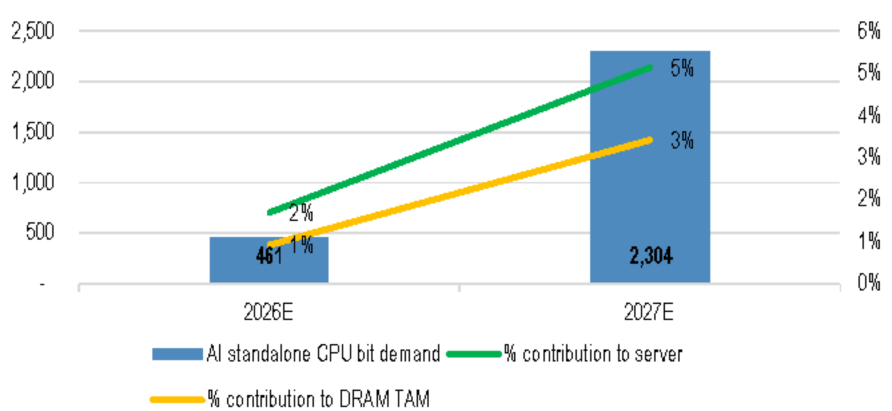
%



Source: J.P. Morgan estimates.

AI standalone CPU demand and % contribution to server/DRAM TAM

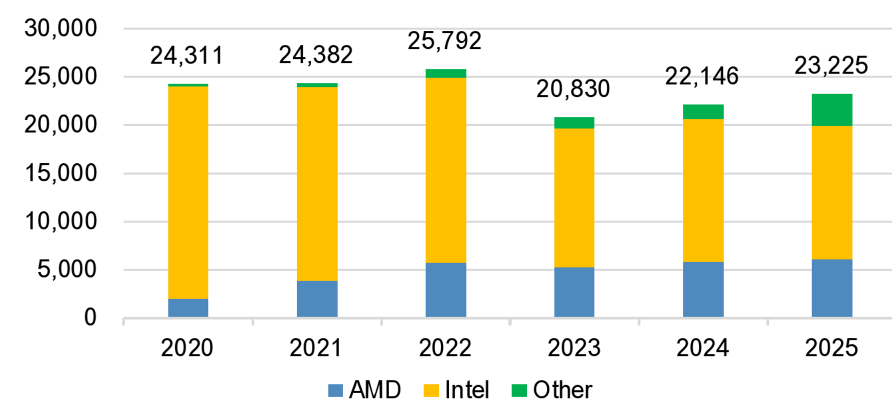
%



Source: J.P. Morgan estimates.

Server CPU unit TAM

Unit in K



Source: Gartner®

2-2. Narrowing GPU to CPU ratio

GPU to CPU assumption for AI headnode demand

Unit in K, GB

Unit 000s	2023	2024	2025	2026E	2027E	2028E
GPU/ASIC	**4,117**	**8,720**	**11,216**	**16,885**	**24,118**	**28,500**
NVDA	1,736	4,500	6,200	8,920	9,900	10,750
AMD	210	500	675	550	978	1,100
ASIC/others	2,171	3,720	4,341	7,415	13,240	16,650
AI grade CPU	**762**	**1,830**	**3,469**	**5,982**	**9,289**	**11,941**
NVDA	434	1,225	2,720	4,186	4,394	5,314
AMD	53	125	169	138	245	275
ASIC/others	276	480	580	1,658	4,650	6,352
GPU to CPU (x)	**5.4**	**4.8**	**3.2**	**2.8**	**2.6**	**2.4**
NVDA	4.0	3.7	2.3	2.1	2.3	2.0
AMD	4.0	4.0	4.0	4.0	4.0	4.0
ASIC/others	7.9	7.8	7.5	4.5	2.8	2.6
DRAM per AI CPU (GB)						
NVDA	351	441	488	758	1,619	1,993
AMD	351	433	535	781	950	1,072
ASIC/others	340	416	527	1,004	1,052	971
AI CPU DRAM consumption (mn GB)	**265**	**794**	**1,722**	**4,945**	**12,242**	**17,051**
NVDA	152	540	1,326	3,173	7,117	10,592
AMD	18	54	90	107	232	295
ASIC/others	94	200	306	1,665	4,893	6,164
Non-SOCAMM	265	698	599	1,224	2,188	3,552
SOCAMM	-	96	1,123	3,721	10,054	13,499

Source: J.P. Morgan estimates.

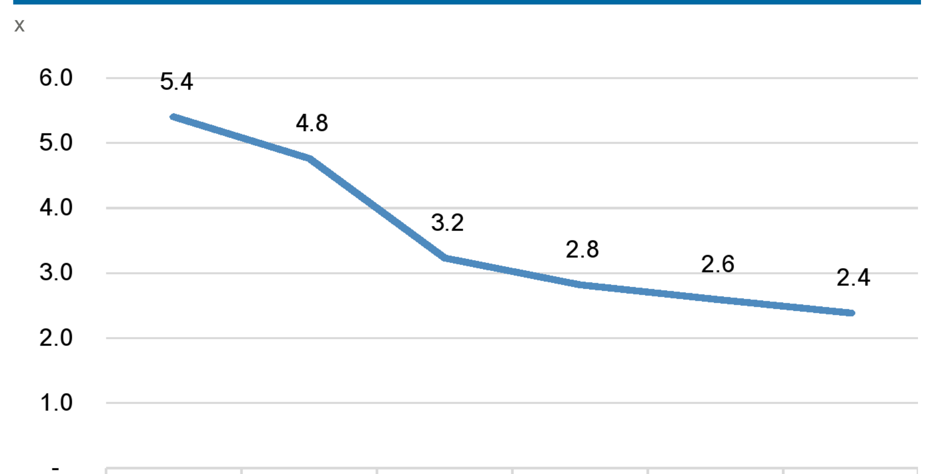
Average DRAM capacity per CPU

GB

Average DRAM capacity per CPU (per one socket)	Mainstream Server DIMM				
	32GB	64GB	96GB	128GB	256GB
Number of Channel = 8 DIMM per CPU = 1	256	512	768	1,024	**2,048**
Number of Channel = 8 DIMM per CPU = 2	512	**1,024**	**1,536**	**2,048**	4,096
Number of Channel = 12 DIMM per CPU = 1	384	768	1,152	1,536	**3,072**
Number of Channel = 12 DIMM per CPU = 2	768	**1,536**	**2,304**	**3,072**	6,144

Source: J.P. Morgan estimates.

GPU to CPU assumption

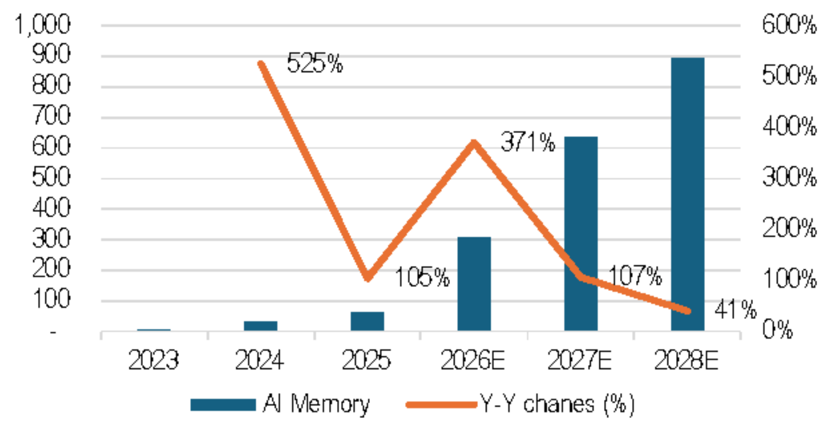


Source: J.P. Morgan estimates.

3. Memory in AI

AI memory Y/Y trend

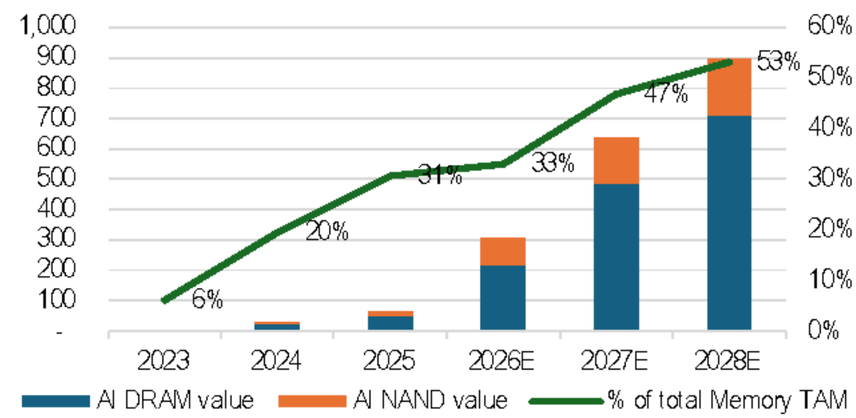
US$bn, % - RHS



Source: Company reports and J.P. Morgan estimates.

AI DRAM and NAND revenue trend

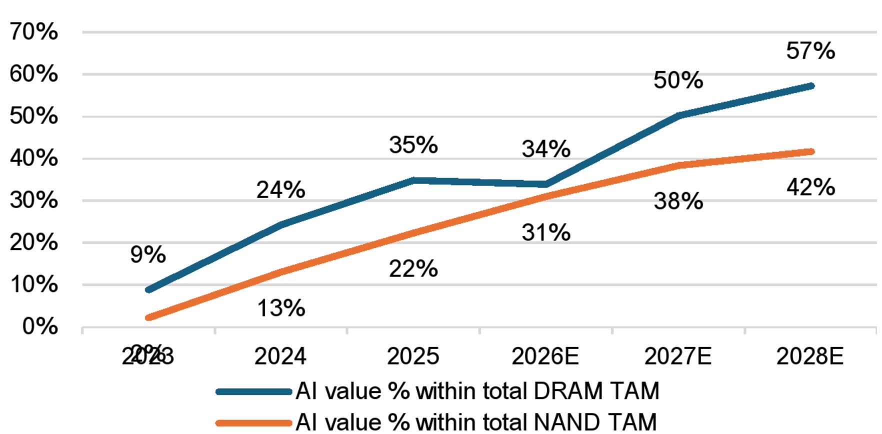
CAGR (%)



Source: Company reports and J.P. Morgan estimates.

AI value within total DRAM & NAND TAM

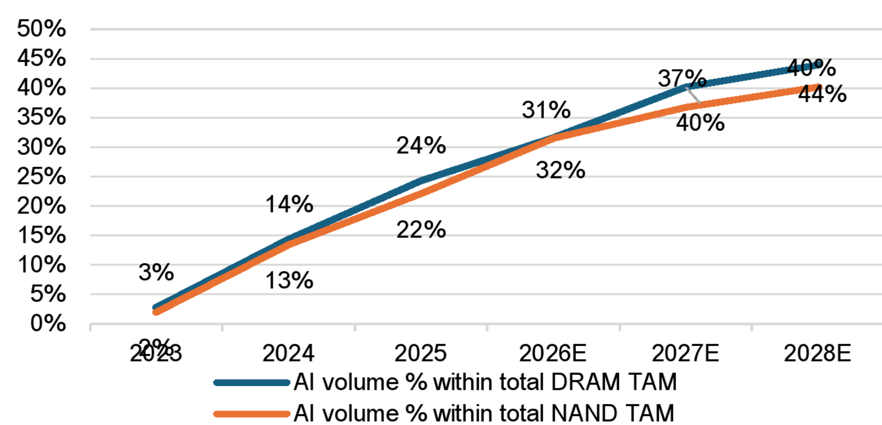
%



Source: Company reports and J.P. Morgan estimates.

AI volume with total DRAM & NAND TAM

%



Source: Company reports and J.P. Morgan estimates.

4. DRAM snapshot: 4 years up-cycle continues; focus on longevity over momentum

DRAM – S/D glut, snapshot graphics, and HBM revenue/capacity

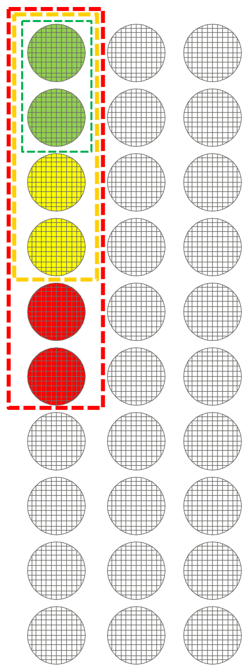
DRAM WSPM: 2.0mn (26E)

Wafer to HBM (25): 351k
~19% of Industry capacity

Wafer to HBM (26E): 475k
24% of industry capacity

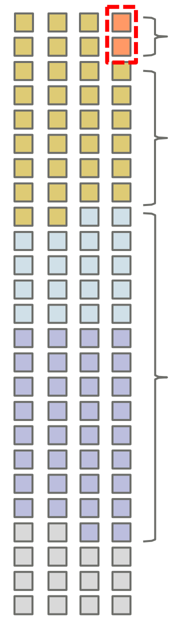
Wafer to HBM (27E): 633k
28% of industry capacity

DRAM wafer allocation to traditional non-HBM shrinks every year. DRAM WSPM naturally shrinks per tech migration (1a>1b>1c). Unless non-HBM **stops growing**, DRAM S/D likely remains tight for longer periods of time



VS.

DRAM Bit demand: 50/68bn (8Gb equivalent) in 26E/27E

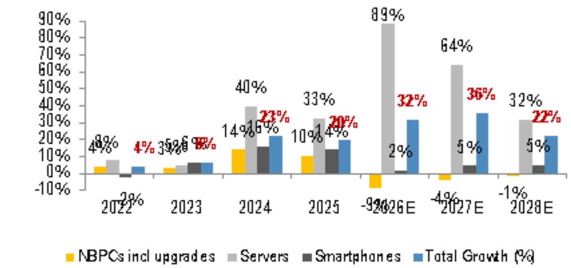


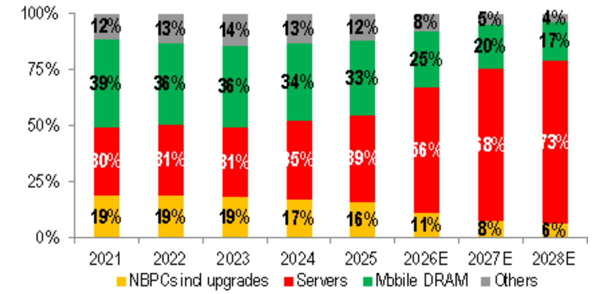
HBM bit demand: 10%/14%/22% throughout 25A-27E

General Server DRAM replacement cycle supports +89%/+64% y-y bit demand in 26E-27E

Edge AI driven restocking cycle and normalized inventory driving mobile/PC unit demand in 25
AI adoption remains key growth
Bipolarized content consumption likely for non-AI devices

DRAM B/G: +19%/+23%/+22% in 25A/26E/27E





	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E
Total demand (M units)	8,266	9,031	10,045	10,577	10,925	12,026	13,254	14,021
Sequential growth (%)	-3%	9%	11%	5%	3%	10%	10%	6%
Y/Y growth (%)	17%	19%	22%	25%	32%	33%	32%	33%
Total supply (M units)	8,024	9,408	10,349	10,569	11,026	11,653	12,152	12,307
Sequential growth (%)	-1%	17%	10%	2%	4%	6%	4%	1%
Y/Y growth (%)	5%	15%	27%	30%	37%	24%	17%	16%
Consumption (WSTS)	8,019	9,254	10,286	10,781	11,581	12,165	12,640	12,933
Sequential growth (%)	-3%	15%	11%	5%	7%	5%	4%	2%
Y/Y growth (%)	3%	11%	24%	30%	44%	31%	23%	20%
Inventory build-up	6	154	63	(212)	(555)	(512)	(487)	(627)
Cumulative inventory	1,656	1,810	1,873	1,661	1,106	594	107	(520)
Sufficiency ex inventory (%)	0%	2%	1%	-2%	-5%	-4%	-4%	-5%
Sufficiency (%)	5.2%	5.3%	4.7%	3.4%	1.2%	0.2%	-0.8%	-2.2%
Inventory weeks	2.6	2.8	2.7	2.3	1.4	0.7	0.1	(0.6)

	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E
Total demand (M units)	15,304	16,461	17,511	18,227	19,178	20,182	20,850	21,560
Sequential growth (%)	9%	8%	6%	4%	5%	5%	3%	3%
Y/Y growth (%)	40%	37%	32%	30%	25%	23%	19%	18%
Total supply (M units)	12,888	13,736	14,917	15,838	16,682	17,356	18,155	18,843
Sequential growth (%)	5%	7%	9%	6%	5%	4%	5%	4%
Y/Y growth (%)	17%	18%	23%	29%	29%	26%	22%	19%
Consumption (WSTS)	13,708	14,608	15,728	16,522	17,392	18,018	18,820	19,697
Sequential growth (%)	6%	7%	8%	5%	5%	4%	4%	5%
Y/Y growth (%)	18%	20%	24%	28%	27%	23%	20%	19%
Inventory build-up	(821)	(872)	(811)	(684)	(711)	(662)	(665)	(853)
Cumulative inventory	(1,341)	(2,213)	(3,023)	(3,707)	(4,418)	(5,080)	(5,745)	(6,599)
Sufficiency ex inventory (%)	-6%	-6%	-5%	-4%	-4%	-4%	-4%	-4%
Sufficiency (%)	-3.9%	-5.3%	-6.1%	-6.6%	-7.4%	-8.0%	-8.5%	-9.5%
Inventory weeks	(1.4)	(2.3)	(2.9)	(3.4)	(3.8)	(4.1)	(4.4)	(4.8)

	2024	2025	2026E	2027E	2028E
Total demand (M units)	31,364	37,920	50,226	67,504	81,771
Sequential growth (%)	22%	21%	32.5%	34.4%	21.1%
Y/Y growth (%)			9.5%	12.7%	-2.7%
Total supply (M units)	32,131	38,361	47,138	57,379	71,036
Sequential growth (%)	18%	19%	22.9%	21.7%	23.8%
Y/Y growth (%)					
Consumption (WSTS)	32,669	38,340	49,319	60,566	73,927
Sequential growth (%)	24%	17%	28.6%	22.8%	22.1%
Y/Y growth (%)					
Inventory build-up	-	11	-	-	-
Cumulative inventory	1,650	1,661	(520)	(3,707)	(6,599)
Sufficiency ex inventory (%)	-1.6%	0.0%	-4.4%	-5.3%	-3.9%
Sufficiency (%)	3.4%	4.4%	-5.5%	-11.4%	-12.8%
Inventory weeks					

ippli, Gartner, WSTS, J.P. Morgan estimates

	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E
DRAM Revenues (US$, M)	24,773	29,104	37,352	51,478	96,707	159,479	183,101	196,727
Sequential growth (%)	-11%	17%	28%	38%	88%	65%	15%	7%
Y/Y growth (%)	32%	27%	49%	85%	290%	448%	390%	282%
DRAM ASP ($)	3.09	3.15	3.63	4.77	8.35	13.11	14.49	15.21
Sequential growth (%)	-8%	2%	15%	31%	75%	57.0%	10.5%	5.0%
Y/Y growth (%)	28%	14%	20%	42%	170%	317%	299%	219%

	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E
DRAM Revenues (US$, M)	211,643	230,039	256,346	271,976	286,306	298,093	316,341	336,043
Sequential growth (%)	8%	9%	11%	6%	5%	4%	6%	6%
Y/Y growth (%)	119%	44%	40%	38%	35%	30%	23%	24%
DRAM ASP ($)	15.44	15.75	16.30	16.46	16.46	16.54	16.81	17.06
Sequential growth (%)	1.5%	2.0%	3.5%	1.0%	0.0%	0.5%	1.6%	1.5%
Y/Y growth (%)	85%	20%	13%	8%	7%	5%	3%	4%

	2024	2025	2026E	2027E	2028E
DRAM Revenues (US$, M)	94,764	142,707	636,015	970,004	1,236,783
Sequential growth (%)	91%	51%	346%	53%	28%
Y/Y growth (%)					
DRAM ASP ($)	2.90	3.72	12.90	16.02	16.73
Sequential growth (%)	54%	28%	246%	24%	4%
Y/Y growth (%)					

IDIA, iSuppli, Gartner, WSTS, J.P. Morgan estimates

	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E
Consumption vs. Demand	3%	-2%	-2%	-2%	-6%	-1%	5%	8%
Consumption vs. Supply	0%	2%	1%	-2%	-5%	-4%	-4%	-5%

	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E
Consumption vs. Demand	12%	13%	11%	10%	10%	12%	11%	9%
Consumption vs. Supply	-6%	-6%	-5%	-4%	-4%	-4%	-4%	-4%

	2024	2025	2026E	2027E	2028E
Consumption vs. Demand	-4%	-1%	2%	11%	11%
Consumption vs. Supply	-2%	0%	-4%	-5%	-4%

5. DRAM ASP outlook; Server to lead blended ASP hike into 27E/28E

DRAM Industry ASP trend by applications and suppliers

Demand (8Gb. Eq., M)	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E	2024	2025	2026E	2027E	2028E
PC DRAM	1,312	1,400	1,569	1,602	1,441	1,332	1,318	1,282	1,231	1,249	1,302	1,369	1,232	1,224	1,294	1,331	5,332	5,883	5,374	5,151	5,081
mDRAM	2,768	2,830	3,278	3,326	2,708	2,628	2,995	2,967	2,694	2,629	2,952	2,919	2,696	2,743	3,048	3,012	10,683	12,201	11,298	11,193	11,500
Server DRAM	3,001	3,296	3,775	4,382	5,408	6,342	7,546	8,014	9,871	10,931	11,736	12,315	13,635	14,760	14,798	15,792	10,902	14,454	27,309	44,853	58,985
Others	995	1,123	1,174	1,234	1,085	1,188	1,239	1,303	1,136	1,241	1,295	1,361	1,191	1,298	1,355	1,424	4,070	4,526	4,815	5,033	5,269
Total	**8,075**	**8,648**	**9,796**	**10,545**	**10,642**	**11,490**	**13,098**	**13,566**	**14,932**	**16,050**	**17,285**	**17,964**	**18,755**	**20,025**	**20,496**	**21,560**	**30,987**	**37,064**	**48,796**	**66,230**	**80,836**
ASP (8Gb., Eq. $)	**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**1Q27E**	**2Q27E**	**3Q27E**	**4Q27E**	**1Q28E**	**2Q28E**	**3Q28E**	**4Q28E**	**2024**	**2025**	**2026E**	**2027E**	**2028E**
PC DRAM	2.42	2.51	2.82	3.97	6.67	11.61	12.77	13.54	13.67	13.81	13.95	14.08	14.23	14.37	14.51	14.66	2.64	2.97	11.03	13.88	14.45
mDRAM	2.02	2.06	2.38	3.36	5.78	10.18	11.20	11.87	11.99	12.11	12.23	12.35	12.48	12.60	12.73	12.85	2.34	2.49	9.84	12.17	12.67
Server DRAM	4.70	4.96	5.52	7.00	11.27	17.21	18.59	19.40	19.68	20.26	20.61	21.03	21.48	21.75	21.84	22.07	3.99	5.67	17.06	20.44	21.79
Normal Server DRAM	3.21	3.18	3.73	5.61	10.81	17.73	19.15	19.91	20.11	20.31	20.52	20.72	20.93	21.14	21.35	21.56	2.86	4.06	17.24	20.43	21.26
HBM	13.34	13.85	13.83	13.70	13.76	14.45	15.99	16.93	17.63	20.02	21.06	22.35	23.63	24.11	23.70	23.92	11.98	13.71	15.46	20.46	23.84
Others	2.11	1.35	2.11	1.71	2.42	4.84	5.23	5.43	5.54	5.65	5.77	5.88	6.00	6.12	6.24	6.37	1.96	1.81	4.55	5.72	6.19
Top-down blended ASP	**3.09**	**3.15**	**3.63**	**4.77**	**8.35**	**13.13**	**14.60**	**15.30**	**15.55**	**15.87**	**16.78**	**17.05**	**17.13**	**17.32**	**17.76**	**17.93**	**2.92**	**3.73**	**13.09**	**16.35**	**17.55**
Bottoms-up blended ASP	3.20	3.23	3.67	4.77	8.33	13.13	14.43	15.14	15.41	15.74	15.84	15.92	15.91	15.91	16.03	16.34	2.95	3.77	12.87	15.74	16.05
Bottoms-up ex-HBM ASP	2.59	2.57	2.96	4.07	7.89	13.01	14.27	14.95	15.14	15.23	15.19	15.08	14.83	14.69	14.82	15.09	2.53	3.09	12.62	15.16	14.86
Bottoms-up HBM ASP	13.34	13.85	13.83	13.70	13.76	14.45	15.99	16.93	17.63	20.02	21.06	22.35	23.63	24.11	23.70	23.92	11.98	13.71	15.46	20.46	23.84
	68%	43%	58%	36%	29%	37%	36%	36%	36%	36%	34%	35%	35%	35%	35%	36%	2.90	3.72	12.90	16.02	16.73
Sequential change (%)	**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**1Q27E**	**2Q27E**	**3Q27E**	**4Q27E**	**1Q28E**	**2Q28E**	**3Q28E**	**4Q28E**	**2024**	**2025**	**2026E**	**2027E**	**2028E**
PC DRAM	-12%	4%	12%	41%	68%	74%	10%	6%	1%	1%	1%	1%	1%	1%	1%	1%	36%	13%	271%	26%	4%
mDRAM	-10%	2%	16%	41%	72%	76%	10%	6%	1%	1%	1%	1%	1%	1%	1%	1%	31%	6%	295%	24%	4%
Server DRAM	-7%	6%	11%	27%	61%	53%	8%	4%	1%	3%	2%	2%	2%	1%	0%	1%	68%	42%	201%	20%	7%
Normal Server DRAM	-5%	-1%	17%	50%	93%	64%	8%	4%	1%	1%	1%	1%	1%	1%	1%	1%	45%	42%	325%	18%	4%
HBM	3%	4%	0%	-1%	0%	5%	11%	6%	4%	14%	5%	6%	6%	2%	-2%	1%	8%	14%	13%	32%	17%
Others	-5%	-36%	56%	-19%	41%	100%	8%	4%	2%	2%	2%	2%	2%	2%	2%	2%	115%	-8%	151%	26%	8%
Top-down blended ASP	**-8%**	**2%**	**15%**	**31%**	**75%**	**57.2%**	**11.2%**	**4.8%**	**1.6%**	**2.1%**	**5.7%**	**1.6%**	**0.5%**	**1.1%**	**2.5%**	**1.0%**	**56%**	**27%**	**251%**	**25%**	**7%**
Bottoms-up blended ASP	-9%	1%	14%	30%	75%	57.5%	10.0%	4.9%	1.8%	2.2%	0.6%	0.5%	0.0%	0.0%	0.7%	2.0%	61%	28%	241%	22%	2%
Bottoms-up ex-HBM ASP	-6%	-1%	15%	37%	94%	64.8%	9.7%	4.8%	1.3%	0.6%	-0.3%	-0.7%	-1.7%	-0.9%	0.9%	1.9%	49%	22%	308%	20%	-2%
Bottoms-up HBM ASP	3%	4%	0%	-1%	0%	5.0%	10.7%	5.9%	4.2%	13.5%	5.2%	6.2%	5.7%	2.0%	-1.7%	0.9%	8%	14%	13%	32%	17%
mDRAM premium to PC DRAM (%)	**-17%**	**-18%**	**-15%**	**-15%**	**-13%**	**-12%**	**-12%**	**-12%**	**-12%**	**-12%**	**-12%**	**-12%**	**-12%**	**-12%**	**-12%**	**-12%**	**-11%**	**-16%**	**-11%**	**-12%**	**-12%**
Server DRAM premium over PC DRAM (%)	**33%**	**27%**	**33%**	**41%**	**62%**	**53%**	**50%**	**47%**	**47%**	**47%**	**47%**	**47%**	**47%**	**47%**	**47%**	**47%**	**8%**	**37%**	**56%**	**47%**	**47%**
Conventinal DRAM																					
Samsung	-3%	-1%	13%	45%	105%	61%	10%	5%	1%	1%	0%	-1%	-2%	-1%	1%	2%					
SKH	-3%	4%	6%	34%	93%	68%	10%	5%	1%	1%	0%	-1%	-2%	-1%	1%	2%					
Micron	-9%	-8%	24%	22%	80%	75%	10%	5%	1%	1%	0%	-1%	-2%	-1%	1%	2%					
Strip average	-5%	-1%	14%	34%	93%	68%	10%	5%	1%	1%	0%	-1%	-2%	-1%	1%	2%					
Weighted average	-6%	-1%	15%	37%	94%	65%	10%	5%	1%	1%	0%	-1%	-2%	-1%	1%	2%					
Blended DRAM																					
Samsung	-19%	2%	15%	40%	92%	57%	10%	5%	2%	3%	0%	-1%	-1%	0%	1%	2%	61%	22%	294%	22%	1%
SKH	1%	2%	4%	23%	63%	53%	10%	6%	1%	3%	2%	2%	1%	0%	0%	2%	79%	30%	192%	23%	4%
Micron	-2%	-3%	24%	19%	64%	65%	10%	5%	2%	2%	1%	0%	-1%	1%	2%	3%	0%	1%	0%	0%	46%
NYT	-2%	-5%	46%	37%	70%	32%	6%	1%	0%	-4%	-8%	-4%	-5%	-4%	-1%	1%	11%	30%	195%	2%	-2%
CXMT	-8%	-7%	52%	71%	82%	60%	10%	4%	0%	0%	0%	0%	0%	0%	0%	0%	31%	43%	356%	17%	0%
Strip average	-6%	-2%	28%	38%	74%	54%	9%	4%	1%	1%	-1%	0%	-1%	-1%	0%	2%	37%	25%	207%	13%	10%
Weighted average	-9%	1%	14%	30%	75%	58%	10%	5%	2%	2%	1%	0%	0%	0%	1%	2%	61%	28%	241%	22%	2%

6. DRAM WSPM: trending from 1.8M in 25-end to ~2.6M by 28-end

DRAM Industry WSPM trend by suppliers

12" eq., K wspm	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E	2025	2026E	2027E	2028E
SK hynix	370	390	430	430	490	520	530	530	550	550	560	570	585	620	630	650	665	685	725	745	518	558	621	705
M10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M12																								
Wuxi	100	100	100	100	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
Wuxi 2	50	50	60	60	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
M14	150	160	160	160	160	160	160	160	160	155	155	155	155	155	150	150	150	150	150	150	160	156	153	150
M15X									20	30	40	50	65	80	80	80	80	80	80	80		35	76	80
M16	70	80	110	110	150	180	190	190	190	185	185	185	185	185	180	180	175	175	175	175	178	186	183	175
Y1-1													-	20	40	60	60	60	60	60			30	60
Y1-2																	20	40	60	60				45
Y1-3																	-	-	20	40				15
Y1-4																								
Y1-5																								
Samsung	570	600	630	615	610	630	640	660	670	680	695	715	730	750	770	790	825	865	885	905	635	690	760	870
Line 11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Line 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Line 13	50	40	30	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Line 15	180	175	170	170	160	160	160	160	160	160	160	160	160	160	160	160	155	155	155	155	160	160	160	155
Line 16	40	60	80	80	70	70	70	70	70	70	70	70	65	65	65	65	65	65	65	65	70	70	65	65
Line 17	80	85	90	95	100	100	100	100	95	90	90	90	90	90	90	90	90	90	90	90	100	91	90	90
PT1	100	100	100	100	100	100	100	100	100	100	95	95	95	95	95	95	95	95	95	95	100	98	95	95
PT2	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
PT3	20	40	60	60	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	95	100	100	100
PT4					-	-	10	30	45	60	80	100	120	140	160	180	200	220	220	220	10	71	150	215
PT5													-	-	-	-	20	40	60	80			-	50
Y1																								
Micron	295	300	305	305	305	305	305	305	305	305	309	313	317	347	377	392	422	437	467	477	305	308	358	451
Fab 4 (ex-Manassas)	25	25	25	25	25	25	25	25	25	25	29	33	37	37	37	37	37	37	37	37	25	28	37	37
Fab 15 (ex-Hiroshima 1)	85	85	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Hiroshima 2																	-	-	-	10				3
Boise fab (Idaho)													-	15	30	45	60	75	90	90			23	79
PSMC P5 fab													-	15	30	30	45	45	60	60			19	53
NY fab																								
Fab 16 (ex-Rexchip)	95	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Fab 11 (ex-Inotera)	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Fab 1 + Fab 2	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Nanya	60	60	60	60	60	60	62	62	62	62	62	62	62	64	66	72	72	72	72	72	61	62	66	72
Fab 3	60	60	60	60	60	60	62	62	62	62	62	62	62	64	66	72	72	72	72	72	61	62	66	72
Winbond	28	28	23	25	25	25	27	28	28	29	35	35	35	35	35	35	35	35	35	35	26	32	35	35
Fab 4	28	28	23	25	25	25	27	28	28	29	35	35	35	35	35	35	35	35	35	35	26	32	35	35
Powerchip	35	35	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
P1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P3	35	35	40	40	40	40	40	40	40	40	40	40	40	40	45	45	45	45	45	45	40	40	43	45
CXMT	145	160	175	190	230	240	250	260	280	290	300	300	330	350	370	390	400	430	460	490	245	293	360	445
Hufei Phase 1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Hufei Phase 2	30	45	60	75	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Hufei Phase 3					10	20	30	40	60	70	80	80	80	80	80	80	80	80	80	80	25	73	80	80
Shanghai Phase 1													30	50	70	90	100	100	100	100			60	100
Shanghai Phase 2																	-	30	60	90				45
Shanghai Phase 3																								
Beijing Fab	15	15	15	15	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Global WSPM	1,503	1,573	1,663	1,665	1,760	1,820	1,854	1,885	1,935	1,956	2,001	2,035	2,099	2,206	2,288	2,369	2,459	2,564	2,684	2,764	1,830	1,982	2,241	2,618
HBM	125	180	255	295	315	335	365	390	420	460	510	510	550	600	670	710	740	790	850	910	351	475	633	823
Samsung	60	80	120	135	135	135	150	160	170	180	200	200	220	240	260	260	270	300	320	340	145	188	245	308
Hynix	55	90	115	135	145	155	160	170	180	200	220	220	230	240	270	300	320	320	340	360	158	205	260	335
MU	10	10	20	25	35	45	55	60	70	80	90	90	100	120	140	150	150	170	190	210	49	83	128	180
Others	-	-	5	10	10	15	15	20	20	20	30	40	40	50	60	70	70	80	90	100	15	28	55	85
Non-HBM	1,378	1,393	1,408	1,370	1,445	1,485	1,489	1,495	1,515	1,496	1,491	1,525	1,549	1,606	1,618	1,659	1,719	1,774	1,834	1,854	1,479	1,507	1,608	1,795
Samsung	510	520	510	480	475	495	490	500	500	500	495	515	510	510	510	530	555	565	565	565	490	503	515	526
Hynix	315	300	315	295	345	365	370	360	370	350	340	350	355	380	360	350	345	365	385	385	360	353	361	359
MU	285	290	285	280	270	260	250	245	235	225	219	223	217	227	237	242	272	267	277	267	256	226	231	246
Others	268	283	298	315	355	365	379	390	410	421	437	437	467	489	511	537	547	577	607	637	372	426	501	666

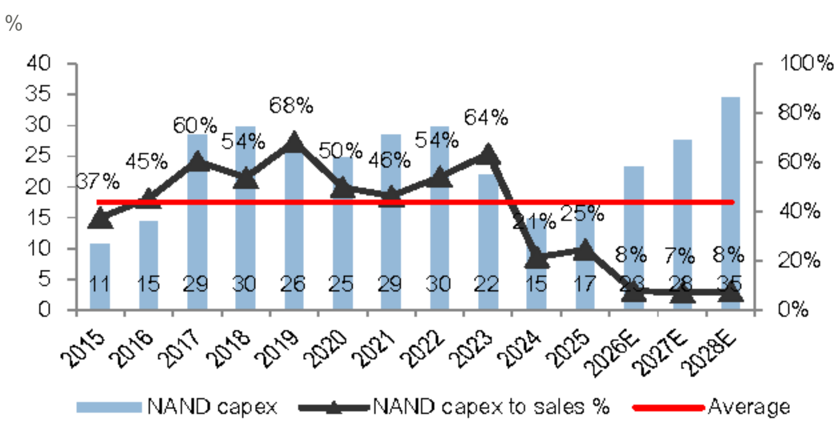
7. NAND snapshot: cyclical rebound, capex discipline, and eSSD as AI enabler

NAND Industry S-D trend

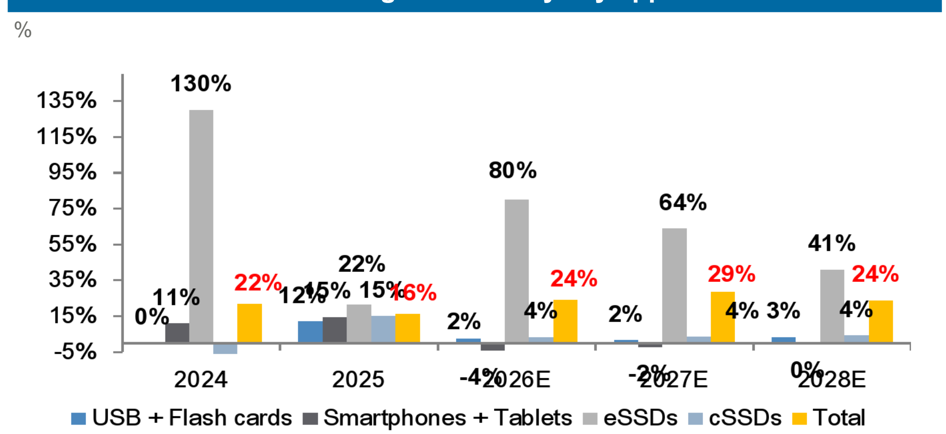
256Gb. Eq. (units in millions)	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E	2024	2025	2026E	2027E	2028E
Demand	**6,342**	**7,189**	**8,274**	**8,905**	**8,744**	**9,156**	**9,723**	**10,165**	**10,808**	**11,667**	**12,780**	**13,661**	**14,146**	**14,616**	**15,265**	**15,790**	**25,746**	**30,710**	**37,788**	**48,916**	**59,817**
Sequential change (%)	-7%	13%	15%	8%	-2%	5%	6%	5%	6%	8%	10%	7%	4%	3%	4%	3%	20%	19%	23.0%	29.4%	22.3%
Y/Y change (%)	9%	16%	20%	30%	38%	27%	18%	14%	24%	27%	31%	34%	31%	25%	19%	16%			3.3%	8.2%	1.3%
Supply	**6,216**	**7,670**	**8,458**	**8,639**	**8,581**	**8,995**	**9,561**	**9,970**	**10,148**	**10,837**	**11,737**	**12,261**	**12,218**	**12,997**	**14,085**	**15,106**	**27,060**	**30,982**	**37,106**	**44,984**	**54,407**
Sequential change (%)	-3%	23%	10%	2%	-1%	5%	6%	4%	2%	7%	8%	4%	0%	6%	8%	7%	14%	14%	19.8%	21.2%	20.9%
Y/Y change (%)	-7%	14%	24%	27%	38%	17%	13%	15%	18%	20%	23%	23%	20%	20%	20%	23%					
Consumption	**6,254**	**7,317**	**8,120**	**8,669**	**9,683**	**10,119**	**10,269**	**10,394**	**10,399**	**10,999**	**11,737**	**12,151**	**12,095**	**12,895**	**14,088**	**15,201**	**27,836**	**30,360**	**40,465**	**45,287**	**54,279**
Sequential change (%)	-10%	17%	11%	7%	12%	4%	1%	1%	0%	6%	7%	4%	0%	7%	9%	8%	26%	9.1%	33.3%	11.9%	19.9%
Y/Y change (%)	-9%	4%	15%	25%	55%	38%	26%	20%	7%	9%	14%	17%	16%	17%	20%	25%					
Inventory build-up	(38)	352	338	(30)	(1,103)	(1,124)	(708)	(425)	(252)	(161)	(0)	110	124	102	(3)	(95)	-	622	-	-	128
Cumulative inventory build up	3,757	4,109	4,447	4,417	3,315	2,191	1,483	1,058	807	645	645	755	879	931	978	883	3,795	4,417	1,058	755	883
Sufficiency (ex inventory)	-1%	5%	4%	0%	-11%	-11%	-7%	-4%	-2%	-1%	0%	1%	1%	1%	0%	-1%	-3%	2%	-8%	-1%	0%
Sufficiency (incl. inventory)	**14.9%**	**15.2%**	**14.7%**	**12.7%**	**5.7%**	**2.6%**	**1.9%**	**1.5%**	**1.3%**	**1.1%**	**1.4%**	**1.8%**	**2.1%**	**2.1%**	**1.7%**	**1.3%**	**10.8%**	**16.6%**	**-5.7%**	**1.0%**	**1.9%**
Inventory weeks	7.4	7.8	7.9	7.4	5.2	3.3	2.2	1.5	1.1	0.8	0.8	0.9	1.0	1.0	1.0	0.8					
		-0.4%	0.5%	2.1%	6.9%	3.1%	0.7%	0.4%	0.2%	0.2%	-0.3%	-0.4%	-0.3%	0.0%	0.4%	0.4%					
NAND revenues (US$, M)	**13,626**	**15,558**	**18,077**	**23,815**	**49,000**	**77,319**	**84,739**	**89,208**	**91,482**	**99,657**	**102,096**	**100,410**	**96,445**	**103,858**	**118,567**	**135,616**	**69,691**	**71,077**	**300,265**	**393,645**	**454,485**
Sequential change (%)	-23%	14%	16%	32%	106%	58%	10%	5%	3%	9%	2%	-2%	-4%	8%	14%	14%	101%	2%	322%	31%	15%
Y/Y change (%)	-8%	-14%	-5%	34%	260%	397%	369%	275%	87%	29%	20%	13%	5%	4%	16%	35%					
NAND ASP (256Gb. Eq.)	**2.18**	**2.13**	**2.23**	**2.75**	**5.06**	**7.64**	**8.25**	**8.58**	**8.80**	**9.06**	**8.70**	**8.26**	**7.97**	**8.05**	**8.42**	**8.92**	**2.50**	**2.34**	**7.42**	**8.69**	**8.37**
Sequential change (%)	-15%	-2%	5%	23%	34%	51.0%	8.0%	4.0%	2.5%	3.0%	-4.0%	-5.0%	-3.5%	1.0%	4.5%	6.0%	60%	-6%	217%	17%	-4%
Y/Y change (%)	1%	-17%	-18%	7%	132%	259%	271%	212%	74%	19%	5%	-4%	-9%	-11%	-3%	8%					

Source: WSTS, Company data, J.P. Morgan estimates.

Long-term NAND capital intensity

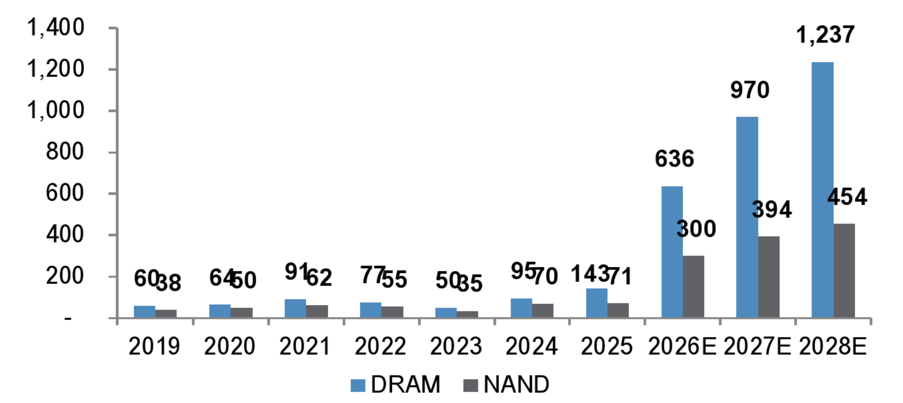


NAND demand growth Y/Y by key application



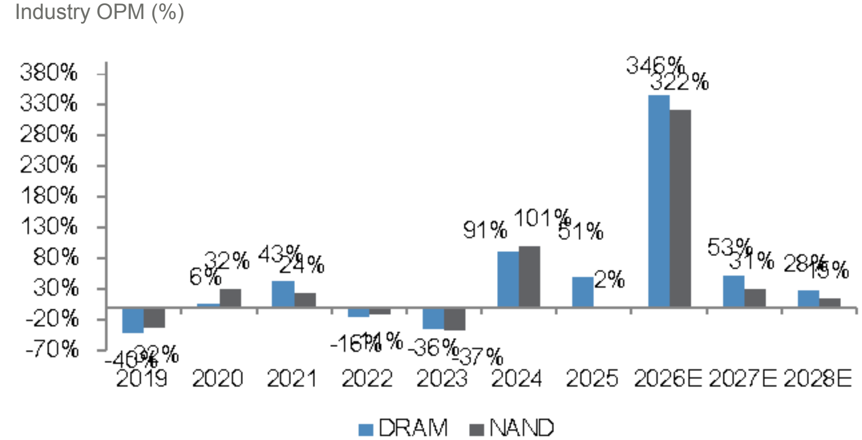
8. DRAM vs. NAND comparison

DRAM vs. NAND TAM comparison



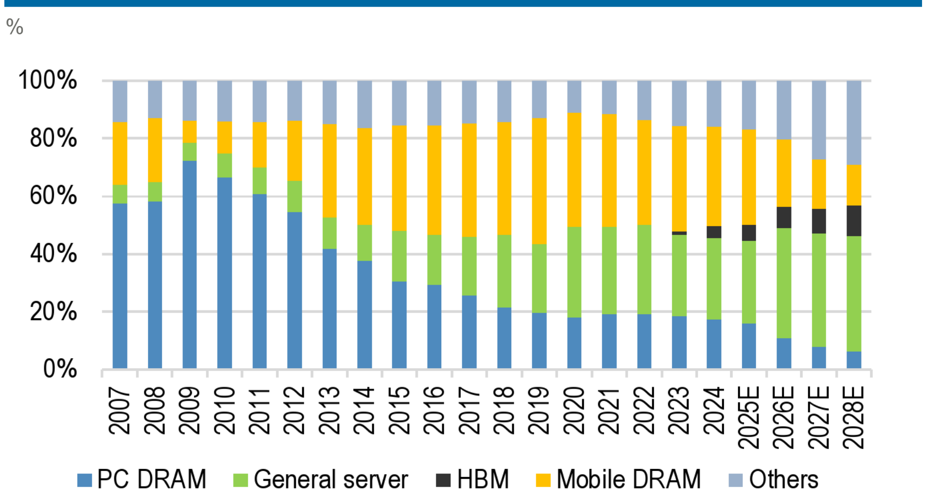
Source: WSTS, Company data, J.P. Morgan estimates.

DRAM vs. NAND growth comparison



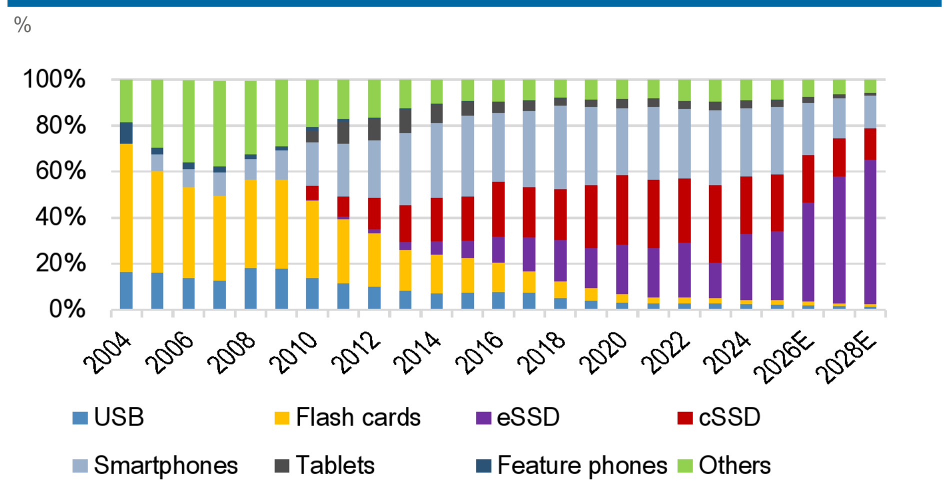
Source: Company data, J.P. Morgan estimates

DRAM demand contribution by application



Source: WSTS, J.P. Morgan estimates

NAND demand contribution by application



Source: : WSTS, J.P. Morgan estimates

9. DRAM and NAND capital spending update

DRAM industry capex

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026E	2027E	2028E
SK hynix	3,600	3,851	6,818	7,162	5,204	6,522	8,705	4,294	10,034	17,314	26,409	37,493	45,986
Samsung	3,882	6,018	11,819	7,291	9,204	14,008	13,652	16,702	19,083	19,824	30,423	42,143	51,071
Micron	2,100	2,800	4,400	4,000	3,250	5,000	5,626	3,300	5,500	13,300	23,200	29,800	34,700
Nanya	693	961	669	178	286	400	695	428	505	431	1,644	1,644	1,138
Winbond	79	250	273	304	267	349	1,415	445	537	208	632	632	632
Powerchip	40	50	357	250	188	200	230	180	180	150	180	216	216
Others (incl. China)	-	-	500	550	1,000	2,000	3,000	5,500	7,000	8,000	8,900	12,100	15,000
Total	**11,294**	**13,930**	**24,836**	**19,735**	**19,399**	**28,479**	**33,323**	**30,849**	**42,839**	**59,226**	**91,389**	**124,029**	**148,744**
Change (%)	**-20%**	**23%**	**78%**	**-21%**	**-2%**	**47%**	**17%**	**-7%**	**39%**	**38%**	**54%**	**36%**	**20%**

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026E	2027E	2028E
DRAM revenue	40,494	74,224	99,780	59,664	63,522	91,034	76,886	49,536	94,764	142,707	636,015	970,004	1,236,783
Y/Y growth	-12%	83%	34%	-40%	6%	43%	-16%	-36%	91%	51%	346%	53%	28%
Capex	11,294	13,930	24,836	19,735	19,399	28,479	33,323	30,849	42,839	59,226	91,389	124,029	148,744
Y/Y growth	-20%	23%	78%	-21%	-2%	47%	17%	-7%	39%	38%	54%	36%	20%
Capex/Revenue	28%	19%	25%	33%	31%	31%	43%	62%	45%	42%	14%	13%	12%
Bit growth	33%	20%	14%	20%	23%	23%	0%	15%	18%	19%	23%	22%	24%

Source: Company data, J.P. Morgan estimates.

NAND industry capex

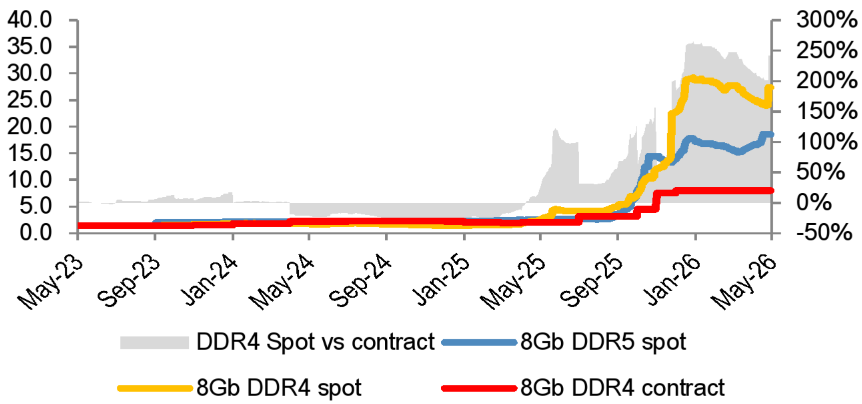
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026E	2027E	2028E
SK hynix	1,400	4,072	7,569	4,632	3,303	4,268	5,733	1,936	1,463	1,548	2,611	3,211	5,418
Samsung	4,744	11,948	6,364	6,605	9,494	10,931	9,677	8,798	5,652	5,483	6,223	7,143	8,214
Micron	3,100	2,700	4,996	3,981	3,500	4,700	5,000	3,000	3,000	3,000	4,300	4,800	7,800
Solidigm	1,600	2,500	2,763	2,951	405	480	-	-	-	-	-	-	-
Kioxia + SanDisk	3,700	4,850	5,200	5,500	5,800	5,800	6,000	5,300	2,300	3,450	5,059	5,565	6,121
YMTC		2,500	3,000	2,180	2,350	2,500	3,500	3,000	2,500	4,000	5,300	7,000	7,000
Total	**14,544**	**28,570**	**29,891**	**25,849**	**24,852**	**28,679**	**29,910**	**22,034**	**14,914**	**17,481**	**23,493**	**27,718**	**34,553**
	35%	96%	5%	-14%	-4%	15%	4%	-26%	-32%	17%	34%	18%	25%

cs	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026E	2027E	2028E
Total NAND capex	14,544	28,570	29,891	25,849	24,852	28,679	29,910	22,034	14,914	17,481	23,493	27,718	34,553
Y/Y change (%)	35%	96%	5%	-14%	-4%	15%	4%	-26%	-32%	17%	34%	18%	25%
Total NAND revenue	32,064	47,227	55,631	37,808	49,792	61,914	55,290	34,652	69,691	71,077	300,265	393,645	454,485
Y/Y change (%)	11%	47%	18%	-32%	32%	24%	-11%	-37%	101%	2%	322%	31%	15%
Revenue/Capex	2.20	1.65	1.86	1.46	2.00	2.16	1.85	1.57	4.67	4.07	12.78	14.20	13.15
NAND bit growth	45%	29%	37%	46%	29%	40%	10%	10%	14%	14%	20%	21%	21%
Capex/Sales	45%	60%	54%	68%	50%	46%	54%	64%	21%	25%	8%	7%	8%

10. Spot price growth decelerating

DRAM spot and contract price trend

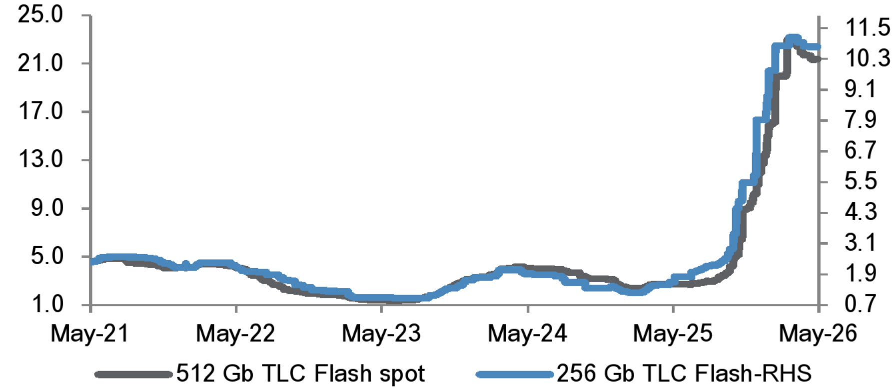
US$/8Gb, % - RHS



Source: Bloomberg Finance L.P.

NAND spot price trend

US$



Source: Bloomberg Finance L.P.

DDR spot price changes from bottom to peak

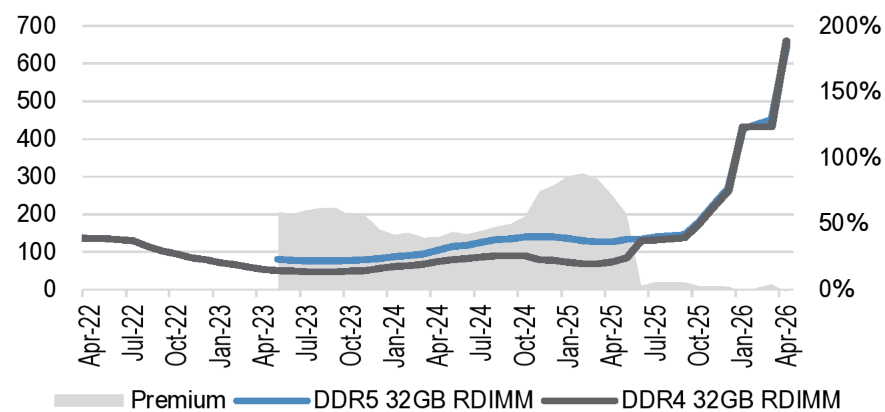
US$

US$/16Gb	Bottom	Quarter	Peak	Quarter	% changes
D2	11.36	1Q09	50.24	1Q10	342%
D3	7.36	2Q16	19.68	2Q17	167%
D4	4.52	1Q25	35.5	2Q26E	685%
D5	4.05		39.46		874%

Source: Bloomberg Finance L.P. Data as of May 29 , 2026.

DDR5 vs. DDR4 RDIMM price trend

US$, %- RHS



Source: Company data.

11-1. HBM S-D: Overall supply tightness continues

S/D glut, mn GB	2023A	2024A	2025A	2026E	2027E	2028E
HBM bit demand	258	877	2,078	3,717	6,930	13,257
HBM bit demand (from upstream, t+4M procurement)	465	1,277	2,624	4,788	7,934	13,761
Adjusted HBM bit supply (from upstream, after CoWoS)	324	1,251	2,160	3,824	5,844	8,745
HBM bit surplus	(141)	(26)	(464)	(964)	(2,091)	(5,016)
Accumulated HBM bit surplus	(141)	(167)	(631)	(1,595)	(3,686)	(8,702)
Adjusted S/D glut (%)	*-30%*	*-2%*	*-18%*	*-20%*	*-26%*	*-36%*
Adjusted S/D glut (weeks)	*(15.8)*	*(1.1)*	*(9.2)*	*(10.5)*	*(13.7)*	*(19.0)*
Accumulated adjusted S/D glut (weeks)	*(15.8)*	*(6.8)*	*(12.5)*	*(17.3)*	*(24.2)*	*(32.9)*
HBM ASP ($/bit)	1.4	1.5	1.7	1.9	2.6	3.0
Y-Y changes (%)		8%	14%	13%	32%	17%
HBM bit shipment (bottom up)	368	1,413	2,447	4,200	6,311	9,444
HBM yield at CoWoS (%)	**88%**	**88%**	**88%**	**91%**	**93%**	**93%**
AI accelerator demand by customer (000s)						
NVDA	1,736	4,500	6,200	8,920	9,900	10,750
AMD	210	500	675	550	978	1,100
ASIC	2,171	3,720	4,341	7,415	13,240	16,650
Sum total	**4,117**	**8,720**	**11,216**	**16,885**	**24,118**	**28,500**
CoWoS allocation by customer (k wafers per year)						
NVDA	70	192	400	720	1,120	
AMD	10	45	52	80	180	
Others	54	113	200	415	795	
Sum total (less Apple)	**134**	**350**	**652**	**1,215**	**2,095**	
HBM bid demand by customer						
NVDA	155	586	1,401	2,266	3,776	8,075
AMD	21	83	177	216	422	893
ASIC	82	207	500	1,235	2,732	4,289
Total HBM bit installation demand (mn GB)	**258**	**877**	**2,078**	**3,717**	**6,930**	**13,257**
Total HBM bit procurement demand (mn GB)	**465**	**1,277**	**2,624**	**4,788**	**7,934**	**13,761**

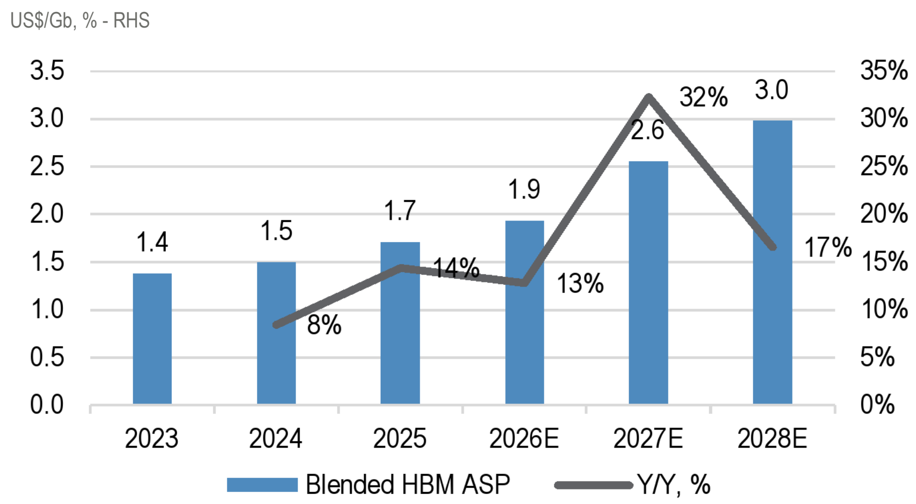
11-2. HBM S-D: 3E enters moderate oversupply vs. Tight HBM4

HBM S-D by product category

	2023	2024	2025	2026E	2027E
HBM3E or below demand = (a)	2,068	7,012	16,621	23,512	28,853
HBM3E or below procurement = (b)	3,716	10,215	18,918	25,292	40,315
HBM3E or below supply = (c)	2,943	11,307	19,571	21,815	14,566
HBM3E or below supply after CoWoS = (d)	2,590	10,005	17,276	19,859	13,487
HBM3E or below accumul. inventory = (d) - (b)	**(1,126)**	**(1,337)**	**(2,978)**	**(8,412)**	**(35,239)**
HBM4 demand = (a)	-	-	-	6,221	20,199
HBM4 procurement = (b)	-	-	156	12,798	15,041
HBM4 supply = (c)	-	-	7	11,788	29,832
HBM4 supply after loss = (d)	-	-	6	10,730	27,623
HBM4 accumul. inventory = (d) - (b)	**-**	**-**	**(149)**	**(2,217)**	**10,365**
HBM4E demand = (a)	-	-	-	-	6,390
HBM4E procurement = (b)	-	-	-	-	15,913
HBM4E supply = (c)	-	-	-	-	6,090
HBM4E supply after loss = (d)	-	-	-	-	5,639
HBM4E inventory = (d) - (b)	**-**	**-**	**-**	**-**	**(10,274)**
HBM demand = (a)	2,068	7,012	16,621	29,732	55,442
HBM procurement = (b)	3,716	10,215	19,074	38,090	71,268
HBM supply = (c)	2,943	11,307	19,578	33,603	50,488
HBM supply after loss = (d)	2,590	10,005	17,283	30,589	46,749
HBM inventory = (d) - (b)	**(1,126)**	**(1,337)**	**(3,128)**	**(10,629)**	**(35,149)**

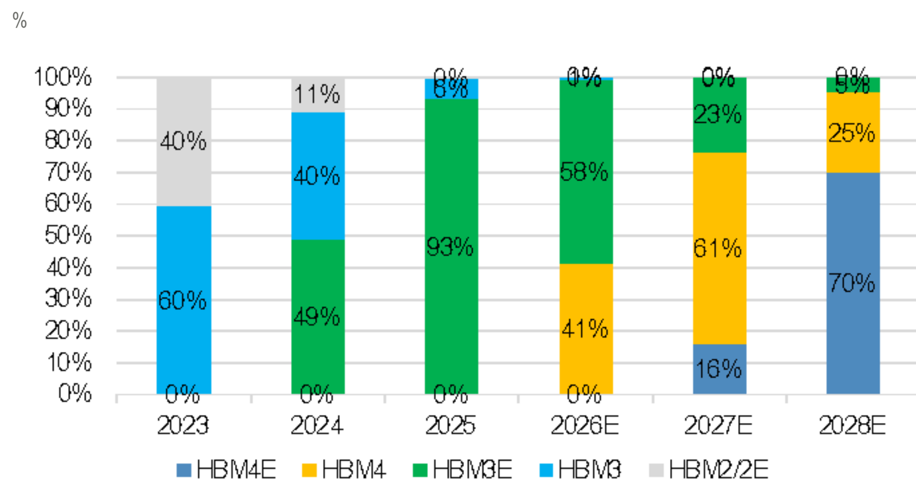
Source: Company data, J.P. Morgan estimates.

HBM ASP and Y/Y% trend



Source: Company data, J.P. Morgan estimates.

HBM sales mix by product category

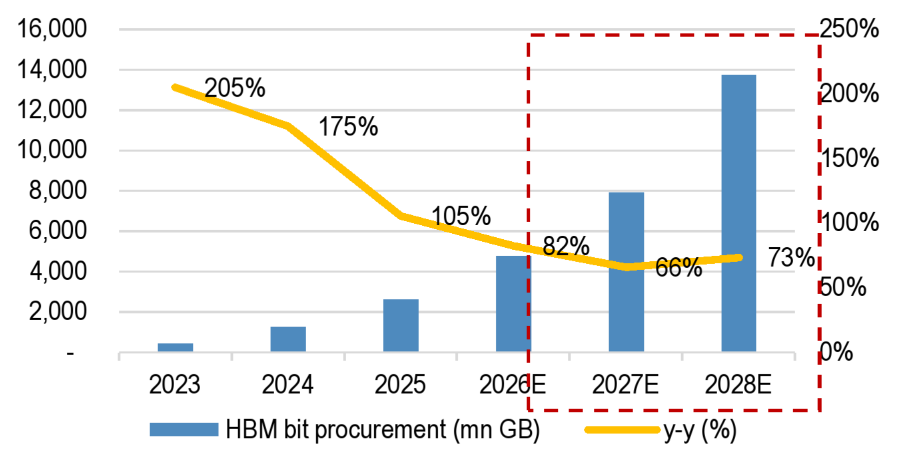


Source: Company data, J.P. Morgan estimates.

12. HBM maintains robust growth profile throughout 2028

HBM bit procurement demand projection and y-y trend

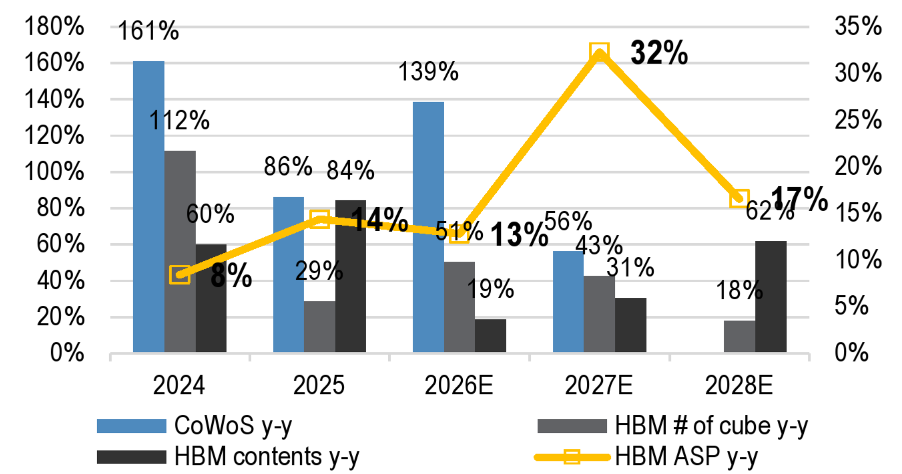
Unit in million GB



Source: Company data, J.P. Morgan estimates.

CoWoS vs. HBM cube vs. HBM content vs. HBM ASP y-y comparison

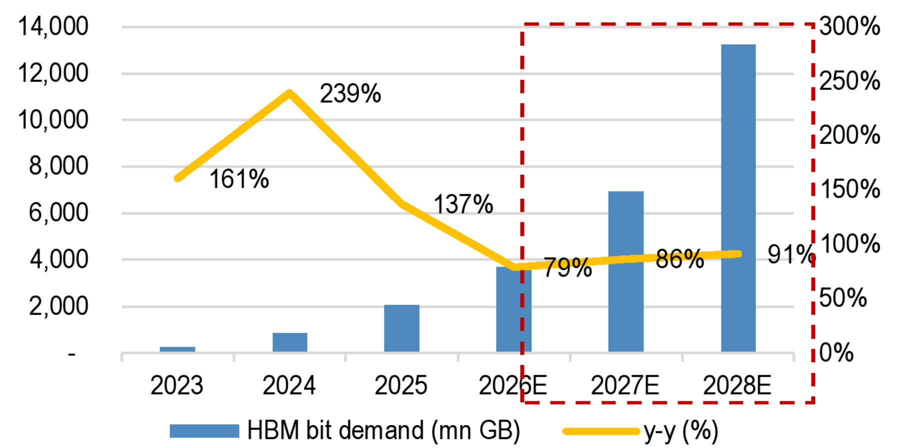
Y-Y changes (%), LHS refers to HBM ASP y-y changes



Source: Company data, J.P. Morgan estimates.

HBM bit demand projection and y-y trend

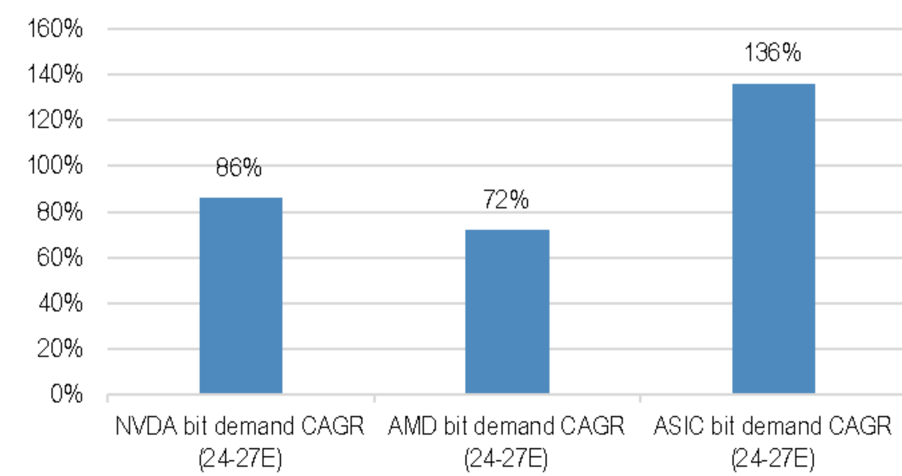
Unit in million GB



Source: Company data, J.P. Morgan estimates.

ASIC chip, HBM TAM and HBM content CAGR

%



Source: Company data, J.P. Morgan estimates.

13-1. Robust HBM demand; Growing ASIC mix

Supplier	Model	Purpose	Memory	Contents	Process (nm)	2022	2023	2024	2025	2026E	2027E	2028E
NVDA	Finemann	AI Training	HBM5 (16Hi)	1024	2nm	-	-	-	-	-	-	300
	Finemann	AI Training	HBM5 (12Hi)	768	2nm	-	-	-	-	-	-	350
	Finemann	AI Training	HBM5 (12Hi) w SRAM	384	2nm	-	-	-	-	-	-	350
	Rubin Ultra	AI Training	HBM4E (16Hi)	1024	3nm	-	-	-	-	-	560	2,800
	Rubin Ultra	AI Training	HBM4E (12Hi)	768	3nm	-	-	-	-	-	1,040	5,200
	Rubin	AI Training	HBM4	288	3nm	-	-	-	-	2,100	7,300	1,750
	B30	AI Training	HBM3E	144	4nm	-	-	-	-	-	-	-
	B300	AI Training	HBM3E	288	4nm	-	-	-	2,700	3,720	1,000	-
	B200	AI Training	HBM3E	192	4nm	-	-	500	2,500	2,700	-	-
	H200	AI Training	HBM3E	144	4nm	-	-	2,200	700	400	-	-
	H20	AI Training	HBM3	96	5nm	-	-	1,000	300	-	-	-
	H100/H800	AI Training	HBM3	80	4nm	160	680	800	-	-	-	-
	A100/A800	AI Training	HBM2E	80	7nm	640	1,056	-	-	-	-	-
	A30	AI Training/Inference	HBM2E	24	7nm	40	80	-	-	-	-	-
	L40	AI Inference	GDDR6	48	5nm	2	40	40	40	40	40	
	T4	AI Inference	GDDR6	48	12nm	224	260	240	240	240	240	
NVDA						800	1,736	4,500	6,200	8,920	9,900	10,750
AMD						35	210	500	675	550	978	1,100
Merchant GPU						835	1,946	5,000	6,875	9,470	10,878	11,850
ASIC						505	2,171	3,720	4,341	7,415	13,240	16,650
AI Accelerator total						1,340	4,117	8,720	11,216	16,885	24,118	28,500
% chagnes							*207%*	*112%*	*29%*	*51%*	*43%*	*18%*

Supplier	Model	Purpose	Memory	Contents	Process (nm)	2022	2023	2024	2025	2026E	2027E	2028E
NVDA	Finemann	AI Training	HBM5 (16Hi)	1024	2nm	-	-	-	-	-	-	307
	Finemann	AI Training	HBM5 (12Hi)	768	2nm	-	-	-	-	-	-	269
	Finemann	AI Training	HBM5 (12Hi) w SRAM	384	2nm	-	-	-	-	-	-	134
	Rubin Ultra	AI Training	HBM4E (16Hi)	1024	3nm	-	-	-	-	-	573	2,867
	Rubin Ultra	AI Training	HBM4E (12Hi)	768	3nm	-	-	-	-	-	799	3,994
	Rubin	AI Training	HBM4	288	3nm	-	-	-	-	605	2,102	504
	B300A	AI Training	HBM3E	144	4nm	-	-	-	-	-	-	-
	B300Ultra	AI Training	HBM3E	288	4nm	-	-	-	778	1,071	288	-
	B200	AI Training	HBM3E	192	4nm	-	-	96	480	518	-	-
	H200	AI Training	HBM3E	144	4nm	-	-	317	101	58	-	-
	H20	AI Training	HBM3	96	5nm	-	-	96	29	-	-	-
	H100/H800	AI Training	HBM3	80	4nm	13	54	64	-	-	-	-
	A100/A800	AI Training	HBM2E	80	7nm	51	84	-	-	-	-	-
	A30	AI Training/Inference	HBM2E	24	7nm	1	2	-	-	-	-	-
	L40	AI Inference	GDDR6	48	5nm	0	2	2	2	2	2	-
	T4	AI Inference	GDDR6	48	12nm	11	12	12	12	12	12	-
NVDA						76	155	586	1,401	2,266	3,776	8,075
AMD						3	21	83	177	216	422	893
ASIC						20	82	207	500	1,235	2,732	4,289
AI Accelerator total						99	258	877	2,078	3,717	6,930	13,257
y-y changes (%)							*161%*	*259%*	*137%*	*79%*	*86%*	*91%*

	2022	2023	2024	2025	2026E	2027E	2028E
HBM demand breakdown (mn 1GB)	99	258	877	2,078	3,717	6,930	13,257
NVDA	76	155	586	1,401	2,266	3,776	8,075
AMD	3	21	83	177	216	422	893
ASIC	20	82	207	500	1,235	2,732	4,289
Unit mix (%)							
NVDA	*76%*	*60%*	*67%*	*67%*	*61%*	*54%*	*61%*
AMD	*3%*	*8%*	*9%*	*9%*	*6%*	*6%*	*7%*
ASIC	*20%*	*32%*	*24%*	*24%*	*33%*	*39%*	*32%*
HBM average contents (GB)	74	63	101	185	220	287	465
NVDA	80	80	127	224	252	380	751
AMD	96	99	166	262	393	432	812
ASIC	40	38	56	115	167	206	258
Y/Y (%)							
Industry average		*-15%*	*60%*	*84%*	*19%*	*31%*	*62%*
NVDA		*0%*	*59%*	*76%*	*13%*	*51%*	*98%*
AMD			*68%*	*57%*	*50%*	*10%*	*88%*
ASIC		*-4%*	*47%*	*107%*	*45%*	*24%*	*25%*

13-2. ASIC unit outgrows NVDA GPU in next 12months

	Applications	Chip forecast (K)						Chip units per server	Implied Server units (K)						Process node (nm)	HBM density (GB)						(generation)	HBM consumption (mn GB)					
		2023	2024	2025	2026E	2027E	2028E		2023	2024	2025	2026E	2027E	2028E		2023	2024	2025	2026E	2027E	2028E		2023	2024	2025	2026E	2027E	2028E
Google																												
TPU - v4	AI inference	220	400	0	0	0	0	1/4/8	37	67	0	0	0	0	7	32	32	32	32	32	32	HBM2	7	13	0	0	0	0
TPU - v5e	AI inference	800	800	0	0	0	0	4	200	200	0	0	0	0	5	16	16	16	16	16	16	HBM2	13	13	0	0	0	0
TPU - v5p	AI training	280	500	0	0	0	0	4	70	125	0	0	0	0	5	96	96	96	96	96	96	HBM2E	27	48	0	0	0	0
TPU - v6e	AI inference	0	0	500	200	0	0	4	0	0	125	50	0	0	3	32	32	32	32	32	32	HBM3	0	0	16	6	0	0
TPU - v6p	AI training	0	0	1,200	400	0	0	4	0	0	300	100	0	0	3	192	192	192	192	192	192	HBM3E	0	0	230	77	0	0
TPU - v7e	AI inference	0	0	0	750	500	0	4	0	0	0	188	125	0	3	64	64	64	64	64	64	HBM3	0	0	0	48	32	0
TPU - v7p	AI training	0	0	25	1,325	1,200	500	4	0	0	6	331	300	125	3	192	192	192	192	192	192	HBM3E	0	0	5	254	230	96
TPU - v8t Zebrafis	AI training	0	0	0	600	2,500	1,500	4	0	0	0	150	625	375	2/3	216	216	216	216	216	216	HBM3E	0	0	0	130	540	324
TPU - v8i Sunfish	AI inference	0	0	50	1,200	3,780	2,500	4	0	0	13	300	945	625	2/3	288	288	288	288	288	288	HBM3E	0	0	14	346	1,089	720
TPU - v9 Pumafis	AI training/inference	0	0	0	0	50	3,000	4	0	0	0	0	13	750	2	288	288	288	288	288	288	HBM4	0	0	0	0	14	864
TPU - v9 Humufis	AI training/inference	0	0	0	0	0	2,500	4	0	0	0	0	0	625	2	288	288	288	288	288	288	HBM4	0	0	0	0	0	720
Total		1,300	1,700	1,775	4,475	8,030	10,000		307	392	444	1,119	2,008	2,500		36	43	150	192	237	272		47	74	266	861	1,905	2,724
Amazon																												
Inferentia 2/2.5	AI inference	180	250	50	0	0	0	1/6/12	23	31	6	0	0	0	7	32	32	32	32	32	32	HBM2E	6	8	2	0	0	0
Inferentia 3	AI inference	0	0	0	0	0	0	1/6/12	0	0	0	0	0	0	3	72	72	72	72	72	72	HBM3E	0	0	0	0	0	0
Trainium 1	AI training	150	250	0	0	0	0	16	9	16	0	0	0	0	7	32	32	32	32	32	32	HBM2E	5	8	0	0	0	0
Trainium 2	AI training	0	300	1,450	620	0	0	16	0	19	91	39	0	0	5	96	96	96	96	96	96	HBM3	0	29	139	60	0	0
Trainium 3	AI training	0	0	0	1,300	3,300	1,000	16	0	0	0	81	206	63	3	144	144	144	144	144	144	HBM3E	0	0	0	187	475	144
Trainium 4	AI training/inference	0	0	0	0	0	3,000	16	0	0	0	0	0	188	2	288	288	288	288	288	288	HBM4	0	0	0	0	0	864
Total		330	800	1,500	1,920	3,300	4,000		32	66	97	120	206	250		32	56	94	129	144	252		11	45	141	247	475	1,008
Intel																												
Gaudi 2	AI training/inference	16	60	10	0	0	0	8	2	8	1	0	0	0	7	96	96	96	96	96	96	HBM2E	2	6	1	0	0	0
Gaudi 3	AI training/inference	0	15	40	0	0	0	8	0	2	5	0	0	0	5	128	128	128	128	128	128	HBM3	0	2	5	0	0	0
Falcon Shores	AI training/inference				0	0	0	8	0	0	0	0	0	0	3	192	192	192	192	192	192	HBM3E	0	0	0	0	0	0
Total		16	75	50	0	0	0		2	9	6	0	0	0		96	102	122	n.a.	n.a.	n.a.		2	8	6	0	0	0
Microsoft																												
Maia 100	AI accelerator	0	5	6	0	0	0	4	0	1	2	0	0	0	5	64	64	64	64	64	64	HBM2E	0	0	0	0	0	0
Maia 200-1	AI accelerator	0	0	0	50	50	0	4	0	0	0	13	13	0	3	144	144	144	144	144	144	HBM3E	0	0	0	7	7	0
Maia 200-2	AI accelerator	0	0	0	50	50	0	4	0	0	0	13	13	0	3	144	144	144	144	144	144	HBM3E	0	0	0	7	7	0
Maia 300	AI accelerator	0	0	0	100	550	900	4	0	0	0	25	138	225	2	288	288	288	288	288	288	HBM4	0	0	0	29	158	259
Total		0	5	6	200	650	900		0	1	2	50	163	225		N/A	64	64	216	266	288		0	0	0	43	173	259
Meta																												
MTIA v1	AI accelerator	0	250	350	0	0	0	12	0	21	29	0	0	0	5	128	128	128	128	128	128	LPDDR5	0	32	45	0	0	0
MTIA v2	AI accelerator	0	0	0	250	150	0	12	0	0	0	21	13	0	3	128	128	128	128	128	128	LPDDR5	0	0	0	32	19	0
MTIA v3	AI accelerator	0	0	0	0	350	250	12	0	0	0	0	29	21	3	216	216	216	216	216	216	HBM3E	0	0	0	0	76	54
MTIA v4		0	0	0	0	0	450	12	0	0	0	0	0	38	2	288	288	288	288	288	288	HBM4E	0	0	0	0	0	130
Total		0	250	350	250	500	700		0	21	29	21	42	58		N/A	128	128	128	190	262		0	32	45	32	95	184
Tesla																												
Dojo v1		50	150	120	20	0	0	25	2	6	5	1	0	0	7	32	32	32	32	32	32	HBM3	2	5	4	1	0	0
Dojo v2		0	0	0	100	60	0	25	0	0	0	4	2	0	3	192	192	192	192	192	192	HBM3E	0	0	0	19	12	0
AI5		0	0	0	0	0	0	25	0	0	0	0	0	0	3	144	144	144	144	144	144	HBM3E	0	0	0	0	0	0
AI6		0	0	0	0	100	200	25	0	0	0	0	4	8	2	192	192	192	192	192	192	HBM3E	0	0	0	0	19	38
Total		50	150	120	120	160	200		2	6	5	5	6	8		32	32	32	165	192	192		2	5	4	20	31	38
ASIC total		1,646	2,830	3,681	6,845	12,480	15,600		341	489	578	1,310	2,418	3,033		38	58	124	173	212	269		59	158	458	1,183	2,648	4,175
Google		1,300	1,700	1,775	4,475	8,030	10,000		307	392	444	1,119	2,008	2,500		36	43	150	192	237	272		47	74	266	861	1,905	2,724
Amazon		330	800	1,500	1,920	3,300	4,000		32	66	97	120	206	250		32	56	94	129	144	252		11	45	141	247	475	1,008
Intel		16	75	50	0	0	0		2	9	6	0	0	0		96	102	122	n.a	n.a	n.a		2	8	6	0	0	0
Microsoft		0	5	6	200	650	900		0	1	2	50	163	225		N/A	64	64	216	266	288		0	0	0	43	173	259
Meta		0	250	350	250	500	700		0	21	29	21	42	58		N/A	128	128	128	190	262		0	32	45	32	95	184
Others		525	890	660	570	760	1,050		81	129	95	80	106	150		45	55	64	92	110	109		24	49	43	52	84	114
Sum total		2,171	3,720	4,341	7,415	13,240	16,650		422	618	672	1,399	2,524	3,183		38	58	115	167	206	258		82	207	500	1,235	2,732	4,289
Y-Y changes, %			71%	17%	71%	79%	26%			47%	9%	107%	82%	26%			47%	107%	45%	24%	25%			151%	142%	147%	121%	57%

14. HBM peer analysis summary

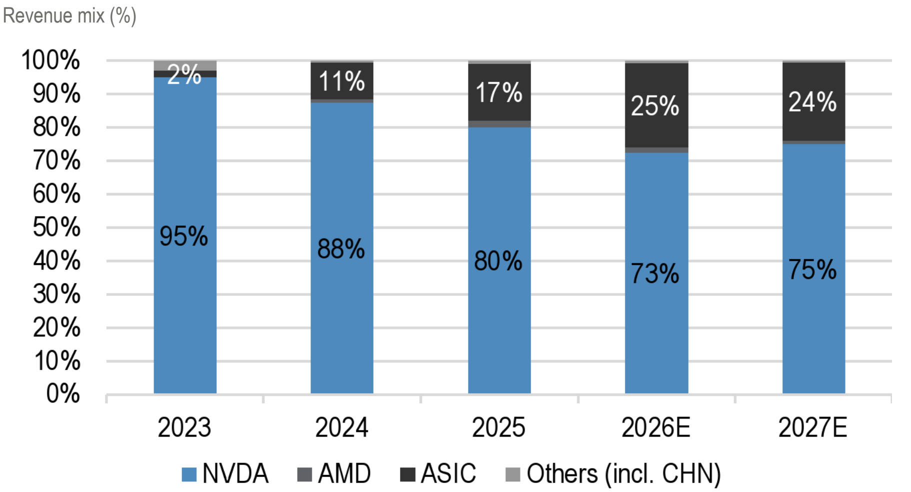
HBM peer quarterly business assumption and comparison

	1Q26	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E	2023	2024	2025	2026E	2027E	2028E
HBM revenue (US$ mn)	**11,391**	**14,137**	**18,888**	**20,532**	**23,837**	**29,481**	**35,011**	**40,763**	**48,513**	**54,322**	**58,569**	**63,787**	**4,065**	**16,935**	**33,541**	**64,948**	**129,092**	**225,191**
Y-Y (%)	*90%*	*85%*	*102%*	*95%*	*109%*	*109%*	*85%*	*99%*	*104%*	*84%*	*67%*	*56%*		*317%*	*98%*	*94%*	*99%*	*74%*
SK Hynix	6,255	7,221	8,726	9,619	10,513	12,401	15,267	19,450	24,199	25,032	25,933	27,739	2,083	9,232	20,186	31,821	57,632	102,902
Samsung	2,545	3,892	6,629	7,294	8,741	10,982	12,369	12,976	15,037	18,007	19,723	21,372	1,982	6,895	6,576	20,360	45,068	74,140
Micron	2,592	3,024	3,532	3,619	4,582	6,097	7,375	8,337	9,277	11,283	12,914	14,676	-	807	6,779	12,767	26,392	48,149
HBM wallet share, %																		
SK Hynix	55%	51%	46%	47%	44%	42%	44%	48%	50%	46%	44%	43%	51%	55%	60%	49%	45%	46%
Samsung	22%	28%	35%	36%	37%	37%	35%	32%	31%	33%	34%	34%	49%	41%	20%	31%	35%	33%
Micron	23%	21%	19%	18%	19%	21%	21%	20%	19%	21%	22%	23%	0%	5%	20%	20%	20%	21%
DRAM wallet share, %																		
SK Hynix	33%	33%	33%	34%	34%	33%	33%	34%	34%	34%	33%	33%	33%	36%	39%	33%	33%	34%
Samsung	44%	44%	44%	43%	44%	44%	43%	44%	43%	43%	43%	44%	43%	42%	37%	44%	44%	43%
Micron	23%	23%	23%	23%	23%	23%	23%	22%	23%	23%	23%	23%	24%	23%	24%	23%	23%	23%
HBM as % of DRAM	**14%**	**10%**	**12%**	**12%**	**13%**	**15%**	**17%**	**18%**	**21%**	**22%**	**23%**	**24%**	**9%**	**19%**	**25%**	**12%**	**16%**	**22%**
SK Hynix	23%	16%	16%	17%	18%	19%	22%	25%	30%	30%	30%	31%	13%	28%	38%	17%	21%	30%
Samsung	7%	6%	10%	10%	11%	13%	13%	13%	15%	17%	18%	18%	10%	18%	13%	9%	13%	17%
Micron	14%	9%	10%	9%	11%	13%	15%	17%	17%	20%	22%	24%	0%	4%	21%	10%	14%	21%
HBM capacity (wspm)	**420**	**460**	**510**	**510**	**550**	**600**	**670**	**710**	**740**	**790**	**850**	**910**	**101**	**214**	**351**	**475**	**633**	**823**
Y-Y (%)	*33%*	*37%*	*40%*	*31%*	*31%*	*30%*	*31%*	*39%*	*35%*	*32%*	*27%*	*28%*		*111%*	*64%*	*35%*	*33%*	*30%*
SK Hynix	180	200	220	220	230	240	270	300	320	320	340	360	46	99	158	205	260	335
Samsung	170	180	200	200	220	240	260	260	270	300	320	340	51	99	145	188	245	308
Micron	70	80	90	90	100	120	140	150	150	170	190	210	4	16	49	83	128	180
HBM bit shipment (mn Gb)	**6,622**	**7,829**	**9,450**	**9,702**	**10,814**	**11,783**	**13,302**	**14,589**	**16,421**	**18,026**	**19,772**	**21,336**	**2,943**	**11,307**	**19,578**	**33,603**	**50,488**	**75,555**
Y-Y (%)	*84%*	*77%*	*75%*	*58%*	*63%*	*51%*	*41%*	*50%*	*52%*	*53%*	*49%*	*46%*		*284%*	*73%*	*72%*	*50%*	*50%*
SK Hynix	3,560	4,001	4,319	4,368	4,755	4,962	5,649	6,629	7,780	7,960	8,484	9,032	1,333	5,804	11,743	16,249	21,995	33,255
Samsung	1,592	2,153	3,268	3,475	3,958	4,308	4,691	4,750	5,272	6,139	6,819	7,325	1,610	5,041	4,145	10,488	17,706	25,555
Micron	1,469	1,675	1,862	1,860	2,101	2,513	2,962	3,210	3,369	3,927	4,469	4,979	-	461	3,689	6,866	10,786	16,745
HBM ASP (US$/8Gb)	**1.7**	**1.8**	**2.0**	**2.1**	**2.2**	**2.5**	**2.6**	**2.8**	**3.0**	**3.0**	**3.0**	**3.0**	**1.4**	**1.5**	**1.7**	**1.9**	**2.6**	**3.0**
Y-Y (%)	*3%*	*4%*	*16%*	*24%*	*28%*	*39%*	*32%*	*32%*	*34%*	*20%*	*13%*	*7%*		*8%*	*14%*	*13%*	*32%*	*17%*
SK Hynix	1.8	1.8	2.0	2.2	2.2	2.5	2.7	2.9	3.1	3.1	3.1	3.1	1.6	1.6	1.7	2.0	2.6	3.1
Samsung	1.6	1.8	2.0	2.1	2.2	2.5	2.6	2.7	2.9	2.9	2.9	2.9	1.2	1.4	1.6	1.9	2.5	2.9
Micron	1.8	1.8	1.9	1.9	2.2	2.4	2.5	2.6	2.8	2.9	2.9	2.9		1.8	1.8	1.9	2.4	2.9

Source: Company data, J.P. Morgan estimates.

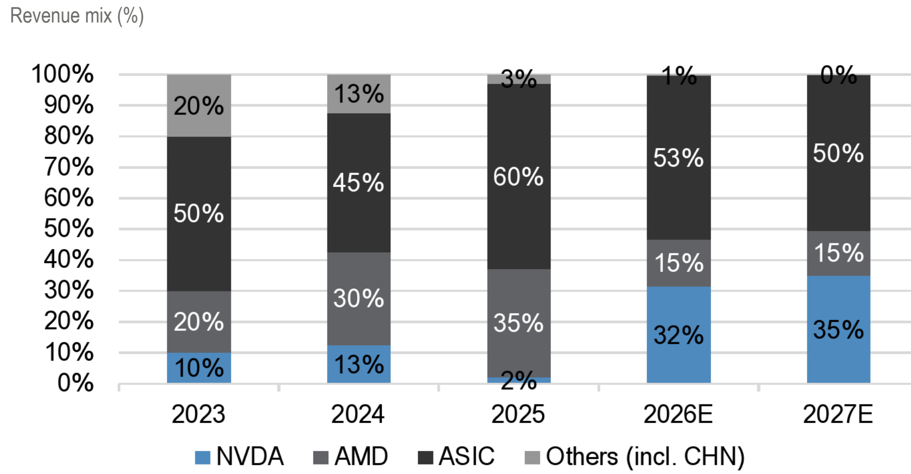
15. HBM share diversification or consolidation? Binary share win from custom HBM

SKH – HBM sales breakdown by customer



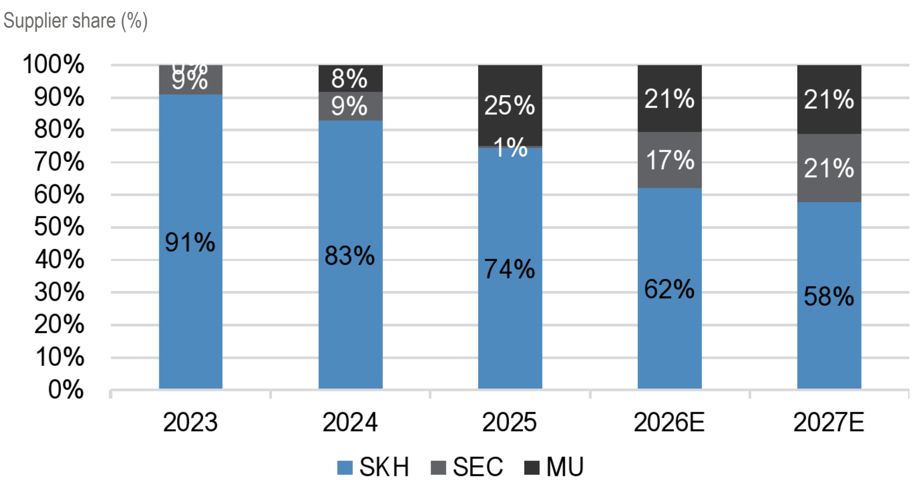
Source: Company data, J.P. Morgan estimates.

SEC – HBM sales breakdown by customer



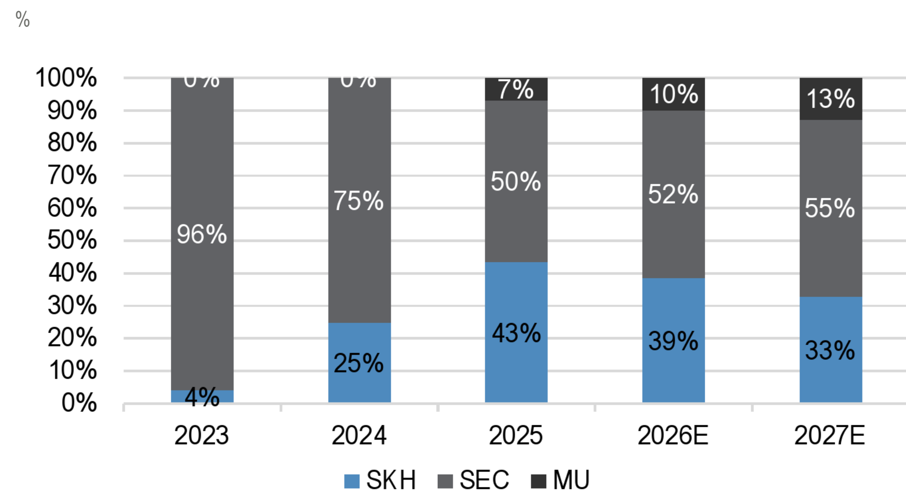
Source: Company data, J.P. Morgan estimates.

NVDA – HBM supplier share comparison



Source: Company data, J.P. Morgan estimates.

ASIC – HBM supplier share comparison



Source: Company data, J.P. Morgan estimates.

16. SKH leadership unchanged, 2026 order discussion completed

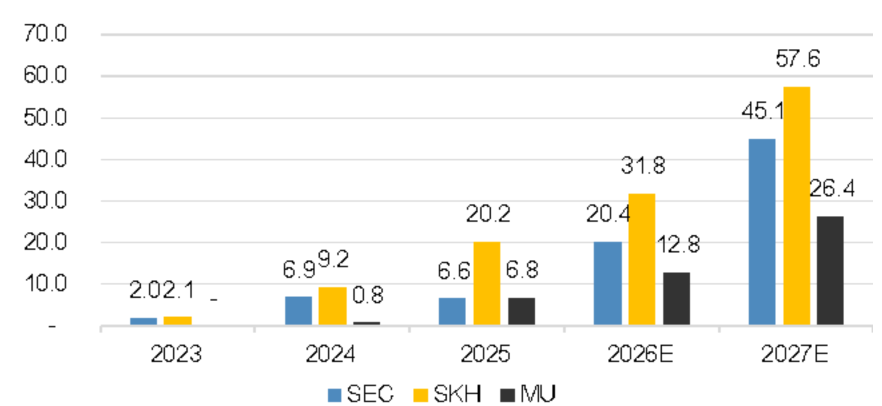
HBM roadmap comparison by major suppliers

	Company	Tech Nodes	Technology	Stack height	2023				2024				2025E				2026E				2027E			
					1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25E	4Q25E	1Q26E	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E
HBM3	Samsung	1znm	TC-NCF	8-Hi				16GB																
			TC-NCF	12-Hi					24GB															
	SK Hynix	1znm	MR-MUF	8-Hi																				
			aMR-MUF	12-Hi		24GB																		
HBM3E	Samsung	1anm	TC-NCF	8-Hi							24GB													
			TC-NCF	12-Hi									36GB											
	SK Hynix	1bnm	MR-MUF	8-Hi					24GB															
			aMR-MUF	12-Hi								36GB												
	Micron	1bnm	TC-NCF	8-Hi					24GB															
			TC-NCF	12-Hi									36GB											
HBM4	Samsung	1cnm	TC-NCF	12-Hi														MP in 1H26E						
			TBD	16-Hi																Likely MP in FY26E				
	SK Hynix	1bnm	aMR-MUF	12-Hi												MP in 4Q25E								
			aMR-MUF	16-Hi															Likely MP in 2H26E					
	Micron	1bnm	TC-NCF	12-Hi													HVP in 1Q26							
			TBD	16-Hi															Likely MP in 2H26E/1H27E					
HBM4E	Samsung		TBD	TBD																	N/A			
	SK Hynix		TBD	TBD																	Likely MP in 2028-2030			
	Micron		TBD	TBD																	N/A			

Source: Company data, J.P. Morgan estimates.

HBM sales comparison by suppliers

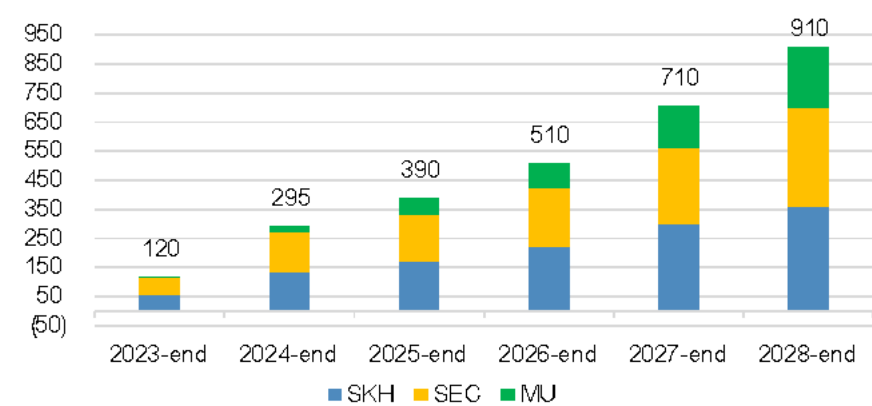
US$ bn - annual



Source: Bloomberg Finance L.P., Company data, J.P. Morgan estimates.

HBM capacity comparison by suppliers

TSV capacity (k wspm) – year-end



Source: Company data, J.P. Morgan estimates.

17. SKH HBM business assumption

Front end																						
HBM die size (mm^2) - HBM2/2E	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92
HBM die size (mm^2) - HBM3	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
HBM die size (mm^2) - HBM3E	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
HBM die size (mm^2) - HBM4	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
HBM die size (mm^2) - HBM4E	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
Gross wafer area (mm^2)	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650	70,650
Edge losses (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Net wafer area (mm^2)	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879	62,879
HBM die per wafer (unit) - HBM2/2E	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683
HBM die per wafer (unit) - HBM3	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572
HBM die per wafer (unit) - HBM3E	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524
HBM die per wafer (unit) - HBM4	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503
HBM die per wafer (unit) - HBM4E	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484
Front-end assembly yield (%)	**69%**	**72%**	**73%**	**76%**	**74%**	**75%**	**76%**	**76%**	**77%**	**77%**	**78%**	**78%**	**78%**	**78%**	**79%**	**79%**	**54%**	**66%**	**73%**	**75%**	**78%**	**79%**
Backend HBM capacity (Kwfpm)	**145**	**155**	**160**	**170**	**180**	**200**	**220**	**220**	**230**	**240**	**270**	**300**	**320**	**320**	**340**	**360**	**38**	**96**	**154**	**202**	**257**	**332**
HBM3 (1anm)	55	65	45	40	25	20	20	10	10	10	10	10	10	5	5	5	46	48	51	19	10	6
HBM3E & 4 (1bnm)	90	90	115	130	155	180	200	210	210	210	210	180	140	120	110	105	-	51	106	186	203	119
HBM4E (1cnm)	-	-	-	-	-	-	-	-	10	20	50	110	170	195	225	250	-	-	-	-	48	210
Backend utilization (%)	99%	98%	97%	99%	99%	99%	99%	99%	100%	100%	98%	98%	100%	100%	98%	98%	82%	99%	98%	99%	99%	99%
HBM bit production (mn Gb)																						
HBM2/2E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HBM3 - 8H	293	274	231	193	67	30	17	17	9	10	4	5	4	4	4	4	1,281	2,336	991	131	28	16
HBM3 - 12H	71	80	51	56	39	22	12	12	13	14	6	7	6	6	6	6	52	235	257	85	40	24
HBM3E - 8H	1,511	1,057	827	662	295	353	197	58	25	26	18	20	25	25	26	28	-	2,957	4,057	902	89	105
HBM3E - 12H	612	1,421	1,930	2,467	3,128	3,221	1,795	1,481	1,660	1,733	1,110	632	313	313	184	156	-	276	6,430	9,626	5,135	966
HBM3E - 16H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HBM4 - 12H	-	-	-	7	31	375	2,299	2,800	3,047	3,180	3,551	3,005	2,340	1,671	1,551	1,493	-	-	7	5,505	12,783	7,055
HBM4E - 16H	-	-	-	-	-	-	-	-	-	-	959	2,960	5,092	5,941	6,713	7,344	-	-	-	-	3,920	25,089
Sum total	2,487	2,832	3,039	3,385	3,560	4,001	4,319	4,368	4,755	4,962	5,649	6,629	7,780	7,960	8,484	9,032	1,333	5,804	11,743	16,249	21,995	33,255
					1%	9%	53%	64%	64%	64%	63%	45%	30%	21%	18%	17%			0%	34%	58%	21%
HBM ASP (US$, 1GB)																						
HBM2/2E																					6,390	31,948
HBM3	**10.1**	10.1	10.1	10.1	**9.1**	9.1	9.1	9.1	**9.1**	9.1	9.1	9.1	**8.7**	8.7	8.7	8.7	12.5	11.3	10.1	9.1	9.1	8.7
HBM3E (8H)	**13.1**	13.1	13.1	13.1	**11.8**	11.8	11.8	11.8	**14.1**	14.1	14.1	14.1	**13.4**	13.4	13.4	13.4		13.8	13.1	11.8	14.1	13.4
HBM3E (12H)	15.2	15.2	15.2	**14.4**	14.4	**14.4**	14.4	**17.3**	17.3	17.3	17.3	**16.4**	16.4	16.4	16.4	**15.6**		15.2	14.9	14.8	17.2	16.3
HBM3E (16H)								**19.9**	19.9	19.9	19.9	**18.9**	18.9	18.9	18.9	**17.9**						
HBM4				**17.5**	17.5	**18.0**	18.0	18.0	18.0	**21.6**	21.6	21.6	21.6	**20.5**	20.5	20.5			17.5	18.0	20.7	20.9
HBM4E											**27.0**	27.0	27.0	27.0	**25.7**	25.7					27.0	26.2
Blended HBM ASP (US$/GB)	13.2	13.8	14.1	13.8	14.1	14.4	16.2	17.6	17.7	20.0	21.6	23.5	24.9	25.2	24.5	24.6	12.5	12.7	13.8	15.7	21.0	24.8
	1.6	1.7	1.8	1.7	1.8	1.8	2.0	2.2	2.2	2.5	2.7	2.9	3.1	3.1	3.1	3.1	1.6	1.6	1.7	2.0	2.6	3.1
HBM sales (US$mn)																						
HBM2/2E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HBM3	460	449	357	315	121	59	33	33	26	27	12	13	10	10	11	12	2,083	3,616	1,580	246	77	43
HBM3E (8H)	2,473	1,729	1,354	1,084	434	519	290	85	44	46	31	35	42	42	44	47	-	5,094	6,640	1,328	157	176
HBM3E (12H)	1,160	2,693	3,656	4,441	5,632	5,798	3,232	3,199	3,587	3,743	2,397	1,298	643	643	377	303	-	523	11,951	17,861	11,025	1,966
HBM3E (16H)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HBM4	-	-	-	15	69	844	5,172	6,301	6,857	8,586	9,588	8,113	6,317	4,287	3,978	3,829	-	-	15	12,385	33,144	18,412
HBM4E	-	-	-	-	-	-	-	-	-	-	3,238	9,991	17,185	20,050	21,522	23,548	-	-	-	-	13,229	82,305
Sum	**4,093**	**4,871**	**5,367**	**5,855**	**6,255**	**7,221**	**8,726**	**9,619**	**10,513**	**12,401**	**15,267**	**19,430**	**24,199**	**25,032**	**25,933**	**27,739**	**2,083**	**9,232**	**20,186**	**31,821**	**57,632**	**102,902**

18. SEC HBM business assumption

	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E	2023	2024	2025	2026E	2027E	2028E
Front end																						
HBM die per wafer (unit) - HBM2/2E	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683	683
HBM die per wafer (unit) - HBM3	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572
HBM die per wafer (unit) - HBM3E	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524
HBM die per wafer (unit) - HBM4	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503	503
HBM die per wafer (unit) - HBM4E	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484
	69%	72%	73%	76%	74%	75%	76%	76%	77%	77%	78%	78%	78%	78%	79%	79%						
Front-end assembly yield (%)	**64%**	**65%**	**66%**	**66%**	**66%**	**68%**	**70%**	**72%**	**74%**	**74%**	**74%**	**74%**	**76%**	**76%**	**76%**	**76%**	**60%**	**62%**	**65%**	**69%**	**74%**	**76%**
	66%	68%	73%	74%	76%	77%	77%	77%	78%	78%	79%	79%	79%	79%	79%	79%						
Backend HBM capacity (Kwfpm)	**135**	**135**	**150**	**160**	**170**	**180**	**200**	**200**	**220**	**240**	**260**	**260**	**270**	**300**	**320**	**340**	**34**	**95**	**62**	**151**	**233**	**292**
HBM2/2E (1znm)	15	15	10	10	10	10	10	5	5	5	5	5	3	3	3	3	41	23	13	9	5	3
HBM3/3E (1znm in 24' and 1anm from 25')	120	120	130	130	130	110	90	90	90	90	90	85	78	78	58	48	10	76	125	105	89	65
HBM4/4E (1cnm from 2H25)	-	-	10	30	30	60	100	105	125	145	165	170	190	220	260	290	-	-	10	74	151	240
Backend utilization (%)	28%	35%	50%	55%	55%	70%	95%	98%	95%	95%	95%	95%	95%	95%	95%	95%	67%	97%	43%	81%	95%	95%
HBM bit production (mn Gb)	4Q25 HBM B/G: flat q-q. 2026 HBM B/G: 2x y-y from low-base. HBM 마진을 훼손하면서까지 판가를 낮춰서 판다고 가정하기는 어렵다. HBM3E로 가면서 HBM4의 원가상승이 생각보다 높지는 않다. 왜냐면 1cnm가 신																					
HBM2/2E	35	31	25	12	12	17	13	14	8	9	4	4	4	4	5	5	1,385	1,657	102	56	24	18
HBM3 - 8H	57	45	49	23	6	9	13	14	16	17	11	11	12	2	2	3	225	1,008	174	42	55	19
HBM3 - 12H	114	65	72	34	17	25	19	20	11	12	5	5	6	6	7	7	-	1,334	285	82	34	26
HBM3E - 8H	179	202	266	234	323	58	18	19	42	46	25	25	13	15	16	17	-	752	881	418	138	61
HBM3E - 12H	183	423	862	1,236	1,201	1,368	1,344	1,046	1,166	1,136	1,132	935	757	738	756	803	-	290	2,704	4,959	4,369	3,053
HBM4 - 12H	-	-	-	-	32	678	1,860	2,362	2,715	3,088	3,025	2,750	2,473	1,924	1,612	1,402	-	-	-	4,931	11,578	7,411
HBM4E - 16H	-	-	-	-	-	-	-	-	-	-	489	1,020	2,006	3,449	4,421	5,089	-	-	-	-	1,509	14,966
Sum total	568	765	1,274	1,538	1,592	2,153	3,268	3,475	3,958	4,308	4,691	4,750	5,272	6,139	6,819	7,325	1,610	5,041	4,145	10,488	17,706	25,555
				21%	3%	35%	52%	6%												153%	0%	
HBM ASP (US$, 1GB)																						
HBM2/2E	8.1	8.1	8.1	8.1	7.3	7.3	7.3	7.3	6.9	6.9	6.9	6.9	6.6	6.6	6.6	6.6	9.5	9.0	8.1	7.3	6.9	6.6
HBM3	10.8	9.7	9.7	9.7	9.7	8.7	8.7	8.7	8.7	8.3	8.3	8.3	8.3	7.9	7.9	7.9	12.0	10.9	10.1	8.9	8.4	8.1
HBM3E	14.2	14.2	12.8	12.8	12.8	12.8	13.4	13.4	16.1	16.1	16.1	16.1	15.3	15.3	15.3	15.3		14.1	13.1	13.0	16.1	15.3
HBM4					18.5	18.5	18.5	18.5	18.5	22.2	22.2	22.2	22.2	21.1	21.1	21.1				18.5	21.3	21.5
HBM4E											26.6	26.6	26.6	26.6	25.3	25.3					26.6	25.8
Blended HBM ASP (US$/GB)	12.8	13.3	12.4	12.6	12.8	14.5	16.2	16.8	17.7	20.4	21.1	21.9	22.8	23.5	23.1	23.3	9.8	10.9	12.7	15.5	20.4	23.2
	1.60	1.66	1.55	1.58	1.60	1.81	2.03	2.10	2.21	2.55	2.64	2.73	2.85	2.93	2.89	2.92	1.23	1.37	1.59	1.94	2.55	2.90
HBM sales (US$mn)																						
HBM2/2E	35	31	25	12	11	16	12	13	7	7	3	3	3	4	4	4	1,645	1,870	103	51	21	15
HBM3	231	133	147	69	29	37	36	38	29	31	17	17	18	9	9	10	337	3,189	580	138	94	46
HBM3E	642	1,107	1,799	2,344	2,431	2,273	2,281	1,783	2,427	2,374	2,324	1,929	1,471	1,437	1,473	1,565	-	1,836	5,892	8,768	9,055	5,944
HBM4	-	-	-	-	74	1,567	4,301	5,461	6,278	8,570	8,394	7,631	6,864	5,072	4,251	3,695	-	-	-	11,403	30,873	19,881
HBM4E					-	-	-	-	-	-	1,630	3,396	6,681	11,487	13,987	16,099	-	-	-	-	5,026	48,253
Sum	**908**	**1,272**	**1,971**	**2,425**	**2,545**	**3,892**	**6,629**	**7,294**	**8,741**	**10,982**	**12,369**	**12,976**	**15,037**	**18,007**	**19,723**	**21,372**	**1,982**	**6,895**	**6,576**	**20,360**	**45,068**	**74,140**
																				3.1		
DRAM financials (US$mn, 1GB eqv)																						
DRAM sales (US$mn)	8,754	9,862	13,043	18,625	36,719	60,798	69,226	72,528	77,990	84,973	92,039	98,640	101,684	106,450	111,820	118,460	20,412	37,953	50,283	239,271	353,643	438,414
Bit shipment (Million Gb)	25,600	28,416	32,820	33,476	34,464	36,258	37,372	37,323	39,499	41,982	45,379	48,896	50,742	52,974	55,058	57,132	96,386	111,120	120,311	145,417	175,755	215,907
% of DRAM sales	*10.4%*	*12.9%*	*15.1%*	*13.0%*	*6.9%*	*6.4%*	*9.6%*	*10.1%*	*11.2%*	*12.9%*	*13.4%*	*13.2%*	*14.8%*	*16.9%*	*17.6%*	*18.0%*	*9.7%*	*18.2%*	*13.1%*	*8.5%*	*12.7%*	*16.9%*
% of DRAM bit shipment	*2.2%*	*2.7%*	*3.9%*	*4.6%*	*4.6%*	*5.9%*	*8.7%*	*9.3%*	*10.0%*	*10.3%*	*10.3%*	*9.7%*	*10.4%*	*11.6%*	*12.4%*	*12.8%*	*1.7%*	*4.5%*	*3.4%*	*7.2%*	*10.1%*	*11.8%*

19. CoWoS capacity allocation update

CoWoS allocation breakdown

Kwfpm

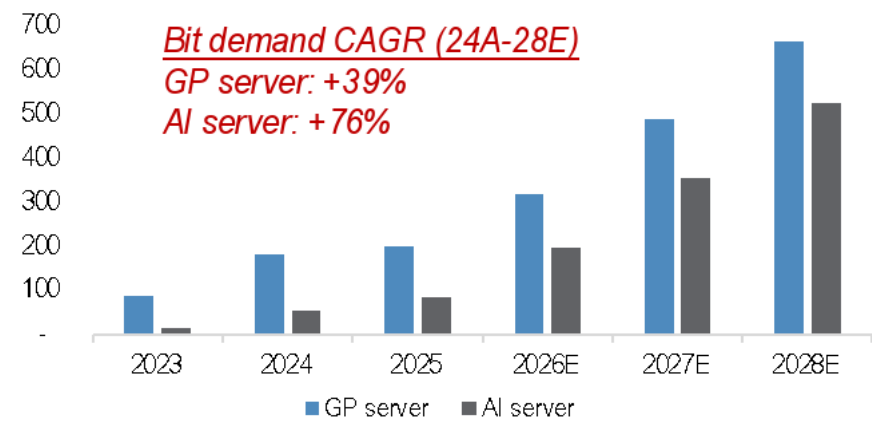
May-2026 CoWoS update	2023	2024	2025	2026E	2027E
NVDA	**70**	**192**	**400**	**720**	**1120**
CoWoS-S/R	70	97	30	5	0
CoWoS-L	0	30	355	675	995
Outside TSMC (only CoWoS-S/R)	0	65	15	40	125
AMD	**10**	**45**	**52**	**80**	**180**
CoWoS-S	10	45	52	25	10
CoWoS-L	0	0	0	55	170
Broadcom	**40**	**70**	**96**	**250**	**425**
CoWoS-S (at TSMC)	40	70	91	220	260
CoWoS-S (outside TSMC)	0	0	5	10	70
CoWoS-L	0	0	0	20	95
Alchip+AWS	7	14	5	65	165
Marvell (incl. AWS for Trn2)	2	13	75	35	30
MTK	0	0	0	30	125
APPL	0	0	0	417	720
Others	5	16	24	35	50
Total CoWoS consumption	**134**	**350**	**652**	**1,632**	**2,815**

Source: Company data, J.P. Morgan estimates.

20. NAND: KVcache offloading and HDD shortage driving long-term eSSD demand growth

eSSD GP server vs. AI server bit demand comparison

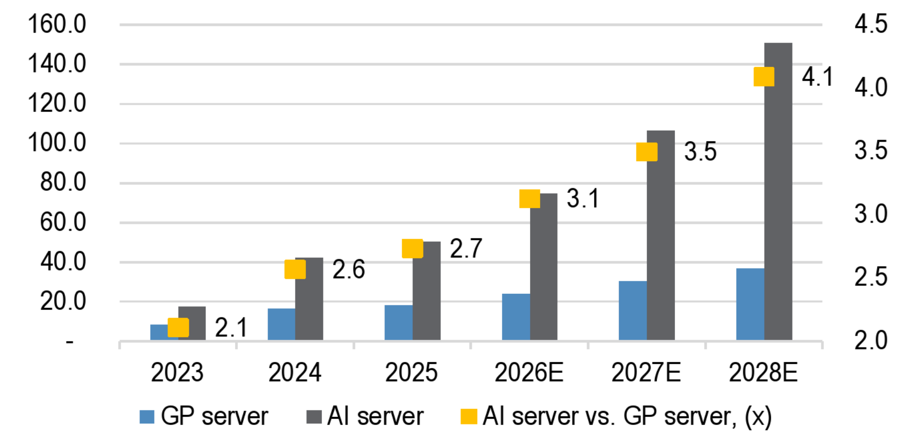
Exabtye (EB)



Source: IDC, Gartner®, J.P. Morgan estimates.

Storage content difference between GP vs. AI server

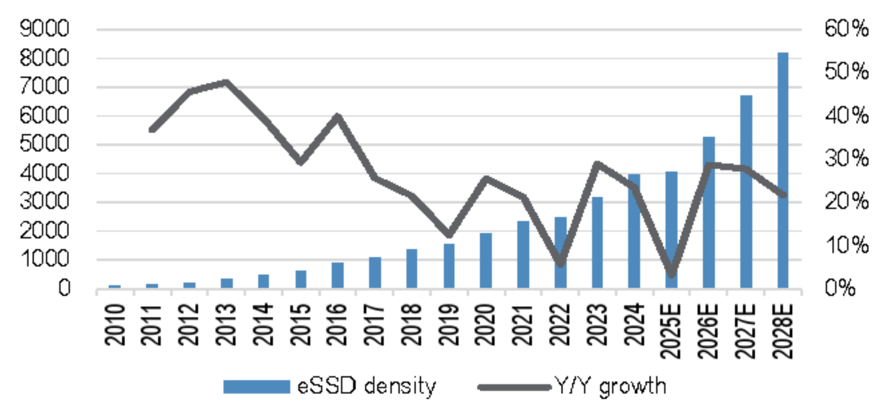
Terabyte (TB), x - RHS



Source: Gartner®, J.P. Morgan estimates.

eSSD LT content growth trend

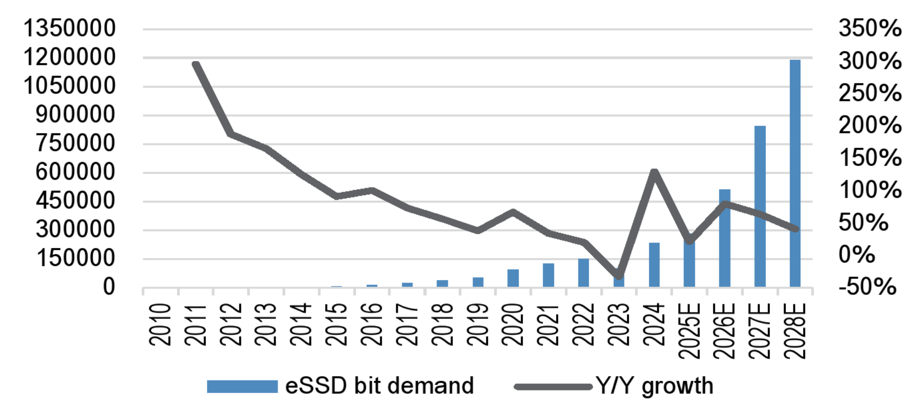
GB, % - RHS



Source: WSTS, J.P. Morgan estimates

eSSD LT bit growth trend

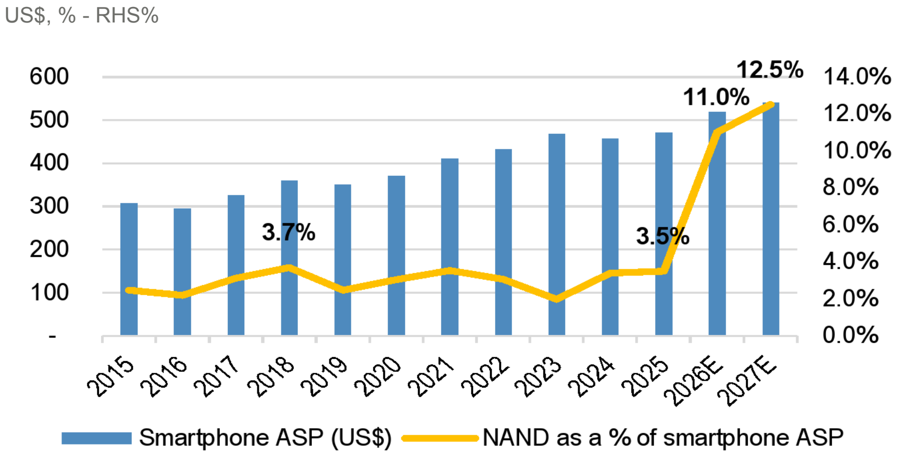
1GB mn eq, % - RHS



Source: WSTS, J.P. Morgan estimates

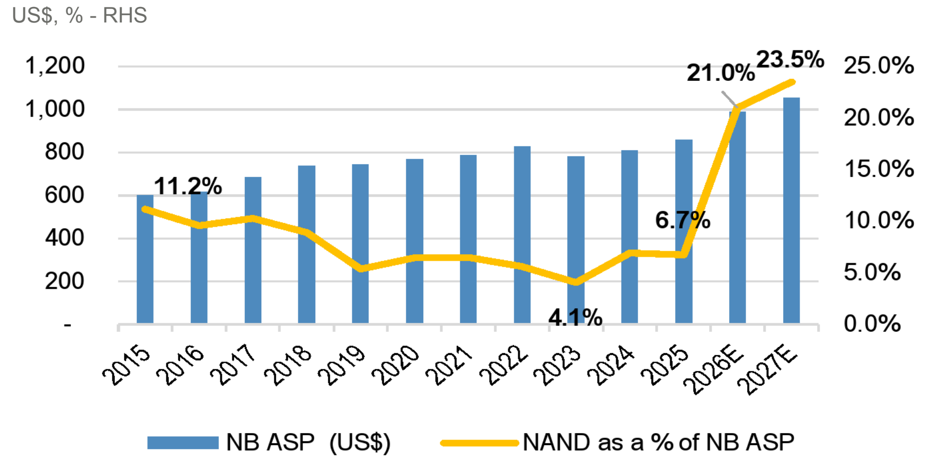
21. NAND value % contribution on rising trend due to pricing amidst contents growth at risk

NAND cost as a % of smartphone ASP



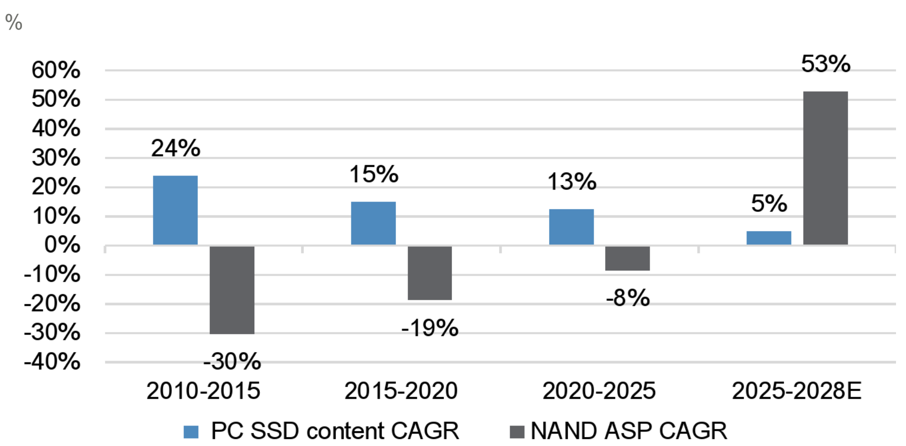
Source: OMDIA, J.P. Morgan estimates.

NAND cost as a % of NB ASP



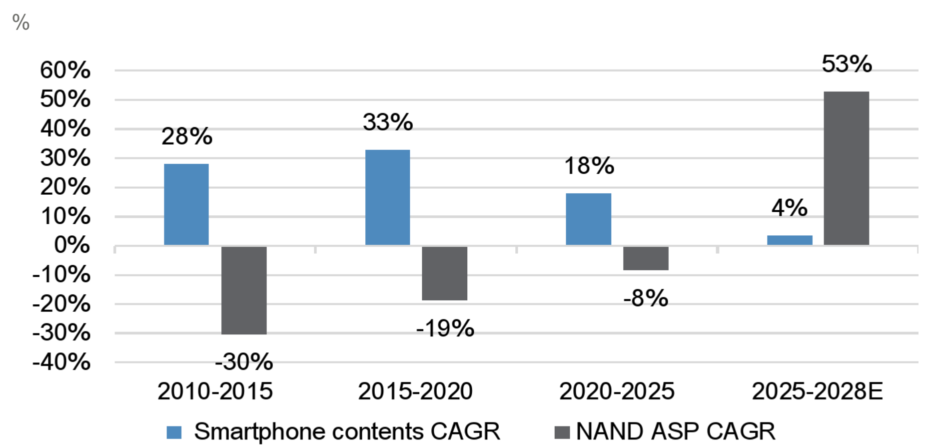
Source: IDC, J.P. Morgan estimates.

NBPC contents CAGR vs. NAND industry ASP CAGR comparison



Source: IDC, Gartner®, J.P. Morgan estimates

Smartphone contents CAGR vs. NAND industry ASP CAGR comparison



Source: : IDC, Gartner®, J.P. Morgan estimates

22. NAND industry capacity and bit production mix comparison

2026E NAND bit production mix by layers by suppliers

%

Bit mix by layers	Kioxia+SNDK	SEC	SKH+Solidigm	SKH	Solidigm	YMTC	MU
<=192L	80%	22%	61%	39%	100%	18%	11%
192L> and <=286L	20%	75%	33%	52%	0%	82%	89%
286L>	0%	4%	6%	9%	0%	0%	0%
Total WSPM	413	399	233	150	83	168	136

Source: OMDIA.

Global NAND wafer capacity mix by location

%

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026E
South Korea	40%	38%	37%	37%	38%	38%	38%	38%	36%	34%	31%	29%	28%
Japan	38%	37%	38%	38%	39%	37%	36%	35%	34%	33%	31%	30%	31%
China	2%	5%	7%	9%	10%	13%	15%	17%	21%	24%	29%	31%	32%
Singapore	10%	11%	10%	10%	10%	10%	9%	8%	7%	7%	8%	8%	8%
United States	10%	9%	7%	6%	3%	3%	3%	2%	2%	3%	2%	2%	2%
Global NAND WSPM	**1,158**	**1,341**	**1,477**	**1,536**	**1,454**	**1,360**	**1,451**	**1,739**	**1,782**	**1,316**	**1,308**	**1,313**	**1,347**

Source: OMDIA

Individual NAND wafer capacity by location

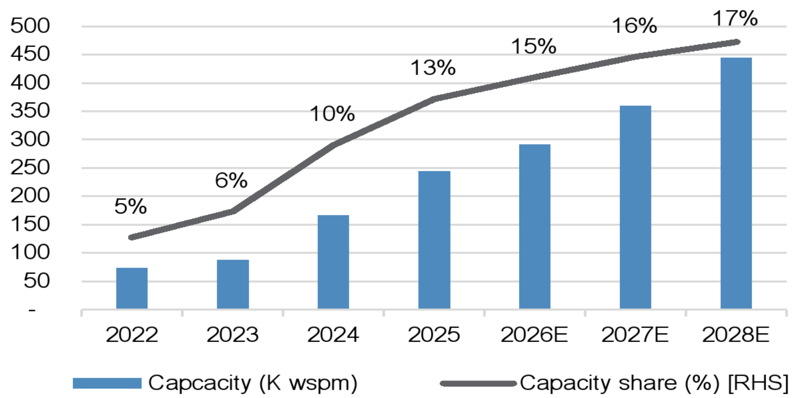
%

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026E
Samsung													
South Korea	94%	83%	77%	78%	79%	76%	75%	71%	64%	63%	55%	56%	56%
China	6%	17%	23%	22%	21%	24%	25%	29%	36%	37%	45%	44%	44%
Kioxia													
Japan	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Micron													
United States	50%	45%	43%	37%	21%	20%	22%	23%	25%	27%	23%	23%	22%
Singapore	50%	55%	57%	63%	79%	80%	78%	77%	75%	73%	77%	77%	78%
SK Hynix													
South Korea	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Solidigm													
China	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
YMTC													
China					100%	100%	100%	100%	100%	100%	100%	100%	100%

23. China Memory Update

Implied CXMT wafer capacity contribution to global DRAM capacity

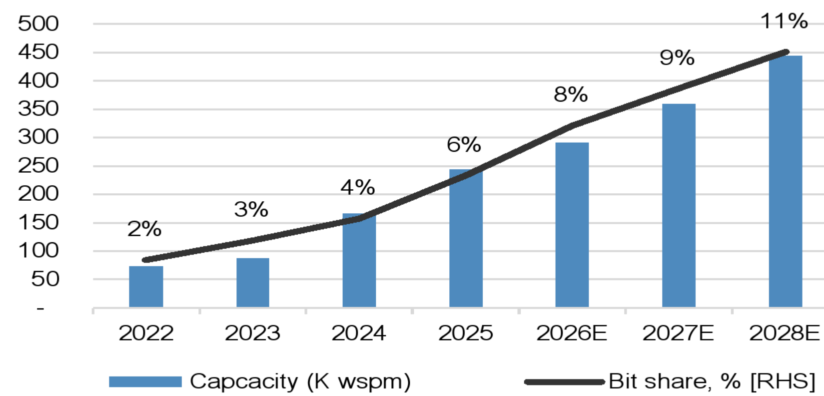
Kwfpm, % - RHS



Source: J.P. Morgan estimates.

Implied CXMT bit share to global DRAM supply

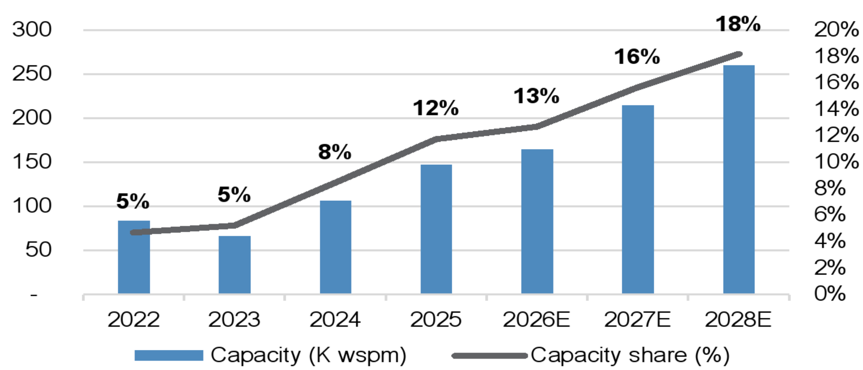
8Gb equiv., % - RHS



Source: J.P. Morgan estimates.

Implied YMTC wafer capacity contribution to global NAND capacity

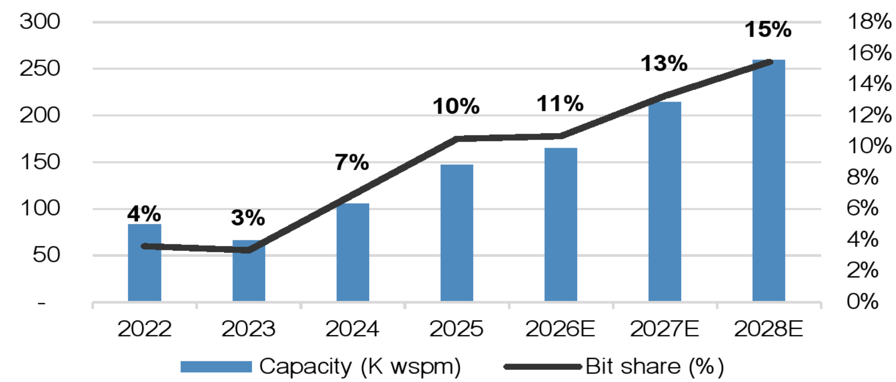
Kwfpm, % - RHS



Source: J.P. Morgan estimates.

Implied YMTC bit share to global NAND supply

256Gb equiv., % - RHS



Source: J.P. Morgan estimates.

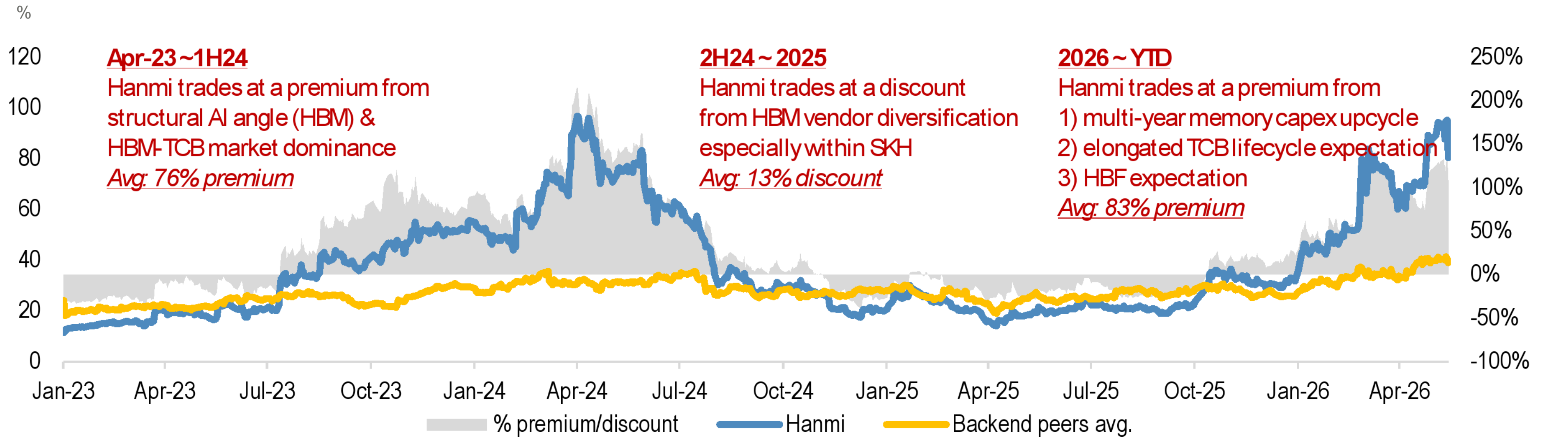
24. Hanmi earnings model – HBM TCB TAM, Hanmi M/S by players

Revenue assumptions	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	2023	2024	2025	2026E	2027E
Bonding Equipment																	
Sales (Wbn)	117.0	129.2	97.4	19.4	154.5	188.1	161.3	168.0	182.6	213.0	324.6	294.2	24	443	363	672	1,014
HBM - TCB sales (Wbn)	112.0	124.2	86.4	16.4	149.0	182.6	149.2	164.7	175.6	205.0	314.6	282.2	-	409	339	646	977
Others (FC Bonder)	5	5	11	3	5.5	5.5	12.1	3.3	7	8	10	12	-	34	24	26	37
Q/Q%	-6%	10%	-25%	-80%	698%	22%	-14%	4%	9%	17%	52%	-9%	-8%	1754%	-18%	85%	51%
Y/Y%	128%	50%	-47%	-84%	32%	46%	66%	768%	18%	13%	101%	75%		-			
Implied TCB sales (Wbn)	112	124	86	16	149	183	149	165	176	205	315	282	-	409	339	646	977
Check	0.0	-	(0.0)	(0.0)													
HBM - TCB Seasonality	31%	36%	27%	5%	23%	28%	24%	25%	18%	21%	32%	29%					
Announced TCB order backlog (Wbn)	-	-	53.6	-	-	-	-	-	-	-	-	-	-	381	54	-	-
HBM Backend capacity (Kwfpm)																	
SEC				160				200				260	60	135	160	200	260
SKH				145				220				300	55	135	145	220	300
MU				55				95				155	5	20	55	95	155
China				8				15				40	-	-	8	15	40
Total HBM backend capacity				367.7				530				755	120	290	368	530	755
Y/Y%				27%				44%				42%		142%	27%	44%	42%
HBM TCB demand per Kwfpm				1.7				1.7				1.7		1.6	1.7	1.7	1.7
HBM TCB demand from capa growth (#)																	
SEC				43				68				102		119	43	68	102
SKH				16				128				136		127	16	128	136
MU				60				68				102		24	60	68	102
China				14				12				43		-	14	12	43
Total				132				276				383		270	132	276	383
HBM TCB demand from tech migration/upgrade (#)																	
SEC				42				21				7		-	42	21	7
SKH				30				25				29		-	30	25	29
MU				-				12				4		-	-	12	4
China				-				-				-		-	-	-	-
Total (ex-China)				72				58				40		-	72	58	40
HBM TCB demand (#)																	
SEC				85				89				109		119	85	89	109
SKH				46				153				165		127	46	153	165
MU				60				80				106		24	60	80	106
China				14				12				43		-	14	12	43
Total				204				334				422		270	204	334	422
HBM TCB ASP (US$M)																	
SEC				1.3				1.5				1.6		1.3	1.3	1.5	1.6
SKH				2.2				2.5				2.7		2.2	2.2	2.5	2.7
MU				2.8				2.9				3.1		2.7	2.8	2.9	3.1
China				3.3				3.3				3.5			3.3	3.3	3.5
Blended ASP				2.1				2.4				2.6		1.8	2.1	2.4	2.6
HBM TCB TAM (US$M)																	
SEC				109				135				179		154	109	135	179
SKH				99				389				451		274	99	389	451
MU				165				228				327		64	165	228	327
China				45				39				150		-	45	39	150
Total TCB TAM				418				791				1,108		492	418	791	1,108
Hanmi M/S%																	
SEC				0%				0%				0%		0%	0%	0%	0%
SKH				55%				55%				55%		95%	55%	55%	55%
MU				95%				95%				95%		100%	95%	95%	95%
China				100%				100%				100%		100%	100%	100%	100%
Blended M/S%				61%				59%				64%		66%	61%	59%	64%
Implied TCB sales for Hanmi (US$M)																	
SEC				-				-				-		-	-	-	-
SKH				54				214				248		260	54	214	248
MU				156				217				311		64	156	217	311
China				45				39				150		-	45	39	150
Total				256.1				469.9				709.4		324	256	470	709

Source: Company data, J.P. Morgan estimates.

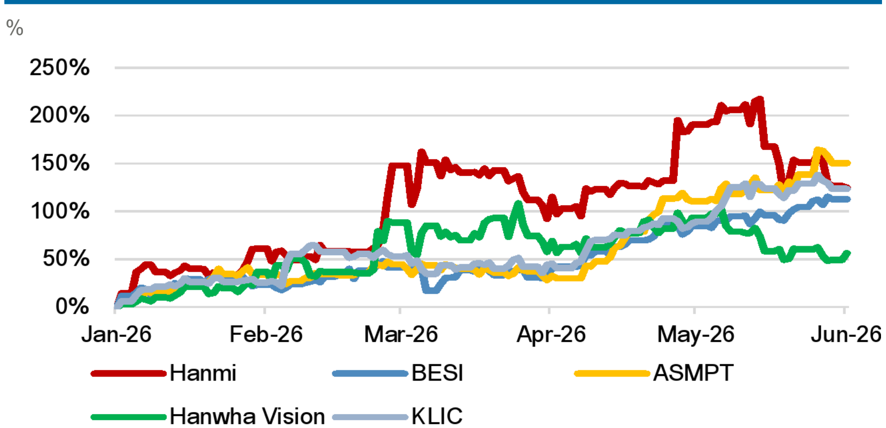
25. Hanmi – share price and valuation analysis

Hanmi P/E valuation vs. peers' and % difference trend since 2023



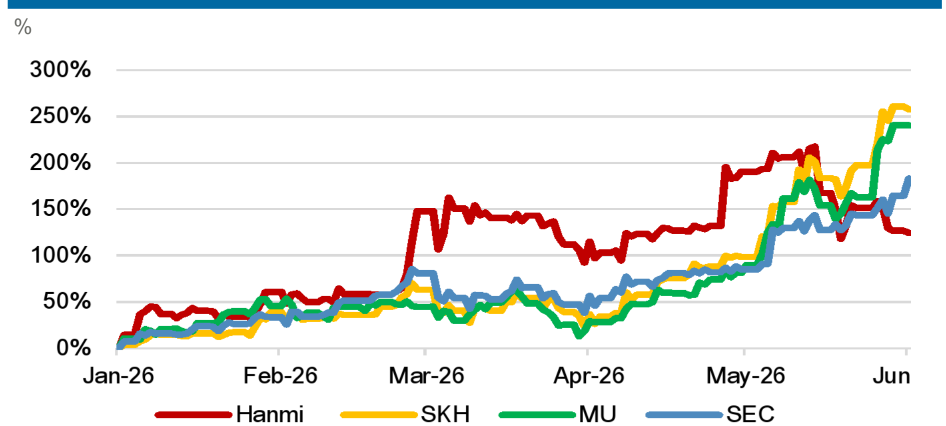
Source: Bloomberg Finance L.P., J.P. Morgan

Hanmi and peers' YTD share price performance



Source: Bloomberg Finance L.P.

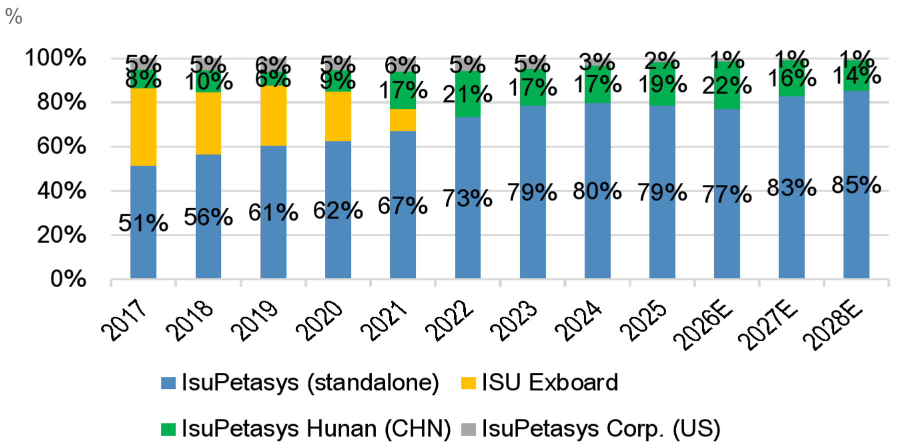
Hanmi and major memory makers' YTD share price performance



Source: Bloomberg Finance L.P.

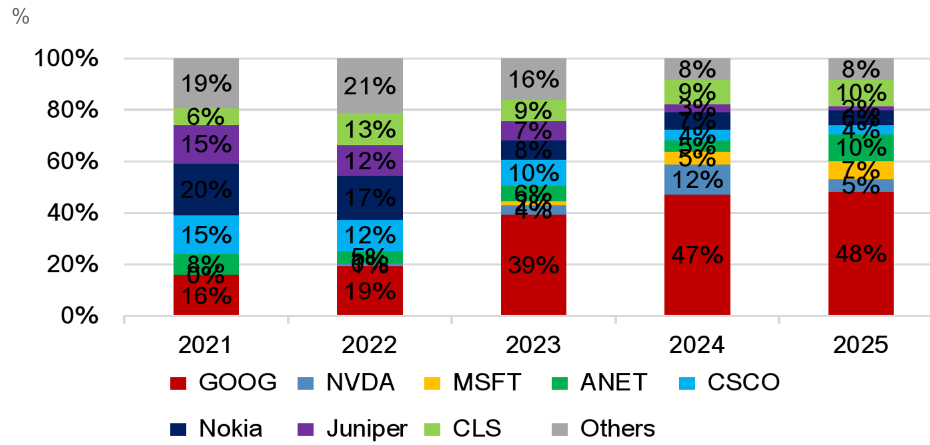
26. ISU – Business snapshot

ISU - Revenue mix by business division



Source: Company data, J.P. Morgan estimates.

ISU (standalone) – sales by customer



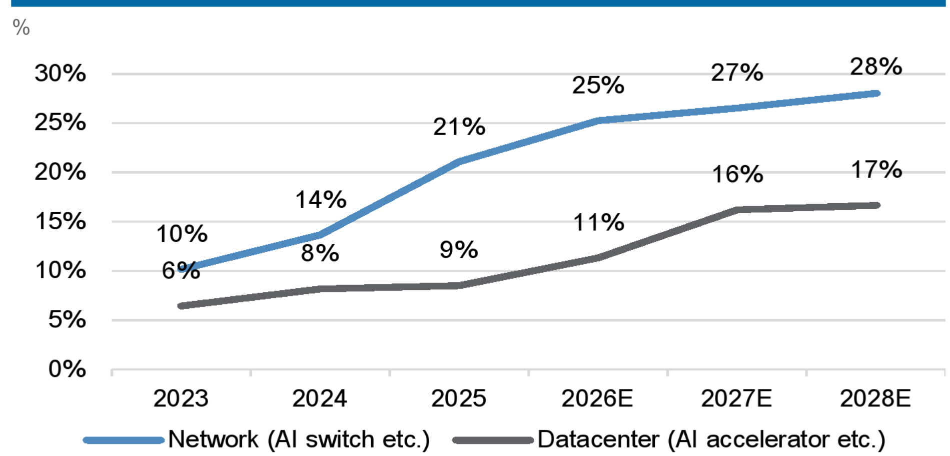
Source: Company data, J.P. Morgan estimates.

MLB configuration by major product

Application	Customers / Categro	Product example	MLB layers
Network Switch	800G Switch	Arista DCS-7060X5 Series	40+L
		Celestica DS4100 & DS500	
		NVDA Spectrum-X	
		Accton (Edgecore)	
		Juniper QFX/PTX Series	
		Cisco Nexus 9364E-SG2	
	400G Switch	Arista 7300X 7800R3 series	Mid-20 - Mid-30L
		Celestica	
		Others: Cisco, Accton, etc	
AI accelerator / Datacenter	NVDA	Bianca board, UBB, OAM	~20L - 30L
	Google	TPUv5 - 7	
	AWS	Trainium 2-3	
	Meta	MTIA2, 3	
	Microsoft	MAIA 300	
	Normal server	CPU main board	

Source: Company data, J.P. Morgan estimates.

ISU (standalone) – Network and DC OPM trend



Source: Company data, J.P. Morgan estimates.

27. ISU – capacity expansion plan and valuation table

ISU – capacity expansion plans and outlook

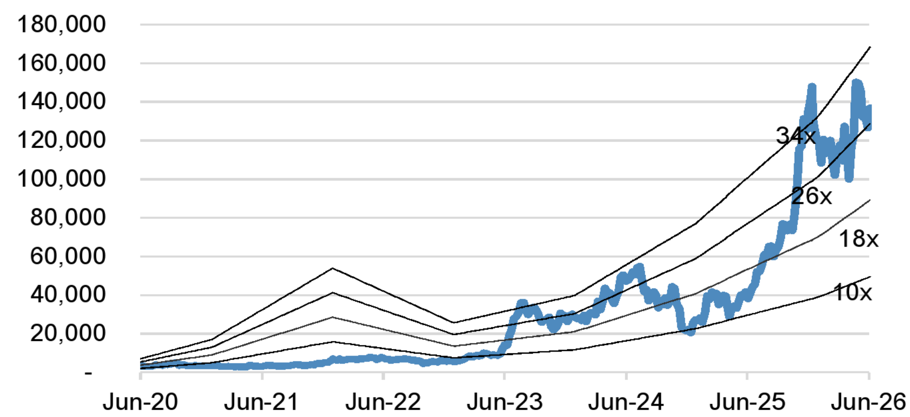
Unit in K/sqm^2

Year	2024	2025	2026E	2027E	2028E
Monthly capacity assumption (K/sqm)					
VIPPO based capacity guidance	17.0	22.0			40.0
Headline capacity increase		5.0	9.0	9.0	9.0
Capacity increase based on Sequential		2.0	3.3	5.2	2.0
De-facto capacity	**17**	**19**	**22**	**28**	**30**
Sequential mix, %		*11%*	*24%*	*38%*	*42%*
		75,997	416	887	
Monthly capa. mix by technology type (K/sqm)				47%	51%
VIPPO	16.1	17.0	17.0	14.5	14.5
Sequential		2.0	5.3	13.0	15.0
Total (K/sqm)	**16.1**	**19.0**	**22.3**	**27.5**	**29.5**
Y/Y, %		18%	17%	23%	7%

Source: Company data, J.P. Morgan estimates.

ISU (standalone) – 1 year FWD P/E band

Won, x



Source: Company data, Bloomberg Finance L.P., J.P. Morgan estimates.

ISU – Peer valuation table

Company	Ticker	Price (LC)	Market Cap (US$M)	Sales growth (%) FY25A	Sales growth (%) FY26E	Sales growth (%) FY27E	OPM (%) FY25A	OPM (%) FY26E	OPM (%) FY27E	P/E (x) FY25A	P/E (x) FY26E	P/E (x) FY27E	P/B (x) FY25A	P/B (x) FY26E	P/B (x) FY27E	ROE (%) FY25A	ROE (%) FY26E	ROE (%) FY27E	YTD perf. (%)	Turnover (3M, US$ M)
1. MLB																				
IsuPetasys Co Ltd	**007660 KS**	**135,900**	**6,580**	**30%**	**45%**	**50%**	**18.8%**	**22.2%**	**24.0%**	**60.0**	**35.2**	**21.5**	**12.7**	**9.8**	**6.9**	**29.6**	**32.0**	**37.7**	**14.0**	**215.2**
WUS Printed Circuit Kunshan Co	002463 CH	132	37,541	48%	42%	42%	23.7%	25.5%	26.9%	67.7	45.6	30.6	17.4	13.5	10.1	26.7	28.9	31.4	80.7	1,104
Victory Giant	300476 CH	376	54,534	77%	69%	65%	27.5%	31.8%	33.1%	68.8	37.2	21.9	21.0	10.9	7.8	33.8	33.7	37.4	30.6	1,973
TTM Technologies Inc	TTMI US	174	18,041	19%	39%	18%	11.6%	13.9%	15%	71.3	42.9	32.7	11.0	8.7	7.1	n.a.	21.8	22.3	151.8	296
Gold Circuit Electronics Ltd	2368 TT	1,330	21,968	55%	64%	43%	23.3%	29.0%	32.9%	70.7	34.6	21.4	23.1	14.4	10.9	37.7	51.1	58.8	93.6	263
Shennan Circuits Co Ltd	002916 CH	412	41,463	32%	33%	29%	15.4%	18.6%	20.4%	79.6	54.9	37.8	14.1	12.9	9.7	20.3	26.0	28.9	77.4	488
Avg. (1)				**43%**	**49%**	**41%**	**20%**	**24%**	**25%**	**69.7**	**41.7**	**27.6**	**16.5**	**11.7**	**8.8**	**29.6**	**32.2**	**36.1**	**74.7**	**723.3**
2. AI CCL																				
Doosan Co Ltd	000150 KS	2,274,000	24,288	9%	9%	12%	5.6%	7.9%	9.6%	202.9	73.2	46.8	28.4	20.7	15.0	9.8	24.9	29.5	190.4	118
Elite Material Co Ltd	2383 TT	5,235	59,924	49%	77%	63%	20.3%	24.9%	29.0%	125.2	58.0	30.7	40.8	26.6	18.3	35.8	48.9	58.7	218.2	376
Taiwan Union Technology Corp	6274 TT	1,775	16,375	30%	89%	54%	15.1%	21.4%	24.4%	144.1	55.7	30.0	30.9	21.1	14.6	22.3	44.0	54.2	259.3	236
ITEQ Corp	6213 TT	295	3,426	9%	40%	23%	7.2%	9.5%	12.3%	73.5	38.9	24.0	5.1	4.8	4.2	7.0	13.1	19.6	159.9	145
Shengyi Technology Co Ltd	600183 CH	141	50,467	43%	37%	30%	15.6%	18.1%	19.4%	97.6	61.2	43.8	19.8	16.5	13.5	21.0	27.5	32.5	96.9	675
Avg. (2)				**28%**	**50%**	**37%**	**13%**	**16%**	**19%**	**128.6**	**57.4**	**35.0**	**25.0**	**17.9**	**13.1**	**19.2**	**31.7**	**38.9**	**185.0**	**309.8**
3. Network switch																				
Arista Networks Inc	ANET US	159	200,805	28%	30%	23%	48.2%	46.8%	46.9%	55.5	43.9	36.1	15.7	12.2	9.6	31.0	31.1	29.6	21.7	1,299
Accton	2345 TT	2,510	44,993	130%	44%	35%	13.0%	14.5%	15.1%	55.8	34.5	24.7	32.1	15.9	10.5	57.0	56.4	52.3	111.8	314
Cisco Systems Inc	CSCO US	120	474,628	5%	11%	9%	34.3%	34.5%	34.0%	31.8	28.1	25.1	10.3	9.5	8.6	31.9	34.3	35.7	56.3	2,151
Celestica Inc	CLS US	385	44,410	27%	58%	42%	7.4%	8.0%	8.3%	65.1	37.6	25.4	19.7	14.2	9.2	32.4	39.5	40.3	30.4	725
Avg. (3)				**48%**	**36%**	**27%**	**26%**	**26%**	**26%**	**52.0**	**36.0**	**27.8**	**19.4**	**13.0**	**9.5**	**38.1**	**40.3**	**39.5**	**55.1**	**1,122.4**
Average of 1-3				**39%**	**46%**	**36%**	**19%**	**22%**	**23%**	**84.6**	**45.4**	**30.2**	**20.1**	**14.1**	**10.4**	**28.3**	**34.2**	**37.9**	**106.2**	**691.9**

st

28. ISU – Sizing GOOG PCB TAM for TPU and Network switches

ISU – Sizing GOOG PCB TAM for TPU and network switch

US$M	2023	2024	2025	2026E	2027E	Remarks
ISU standlone sales (Wbn)	**579**	**719**	**930**	**1,293**	**2,055**	
ISU standlone sales (US$Mn)	**442**	**527**	**665**	**886**	**1,437**	
ISU - GOOG Sales	**174**	**248**	**320**	**487**	**833**	Assume GOOG to account 55% of total sales in 26/27E (60%+ likely cause a concentration risk)
ASIC	143	170	161	301	600	
Networking	31	78	160	187	233	Mkt growth rate
ISU wallet share	45%	45%	45%	23%	21%	
GOOG TAM (US$M)	**386**	**552**	**718**	**2,083**	**3,898**	
ASIC	317	378	364	1,587	3,253	GOOG ASIC TAM (sumproduct of chip * $/chip)
Networking	69	174	354	496	645	Assume GOOG networking switch TAM to grow 40%/30% in 26/27E
GOOG TPU volume (K)	**1,300**	**1,700**	**1,775**	**4,315**	**6,850**	
TPU production by generation (JPMe)						
TPUv4-5	1,300	1,700	-	-	-	
TPUv6		-	1,700	600	-	
TPUv7		-	25	2,075	1,800	
TPUv8		-	50	1,640	5,000	
TPUv9		-	-	-	50	
Total	**1,300**	**1,700**	**1,775**	**4,315**	**6,850**	
Y/Y, %			*4%*	*143%*	*59%*	
ISU - TPU chip (JPMe)						
TPUv4-5	585	765				Assume 45% of M/S
TPUv6			765	15		Assume 45% of M/S in TPUv6 in 25
TPUv7			34	830	449	Assume 40% of M/S in TPUv7 in 26E / small produciton of TPUv8 (in late -26)
TPUv8				164	1,000	Assume 20% of M/S in TPUv8 in 27E / small produciton of TPUv9 (in late -27)
TPUv9					15	
Total	**585**	**765**	**799**	**1,009**	**1,464**	
ISU - $/TPU chip						
TPUv4-5	244	223	223			
TPUv6			210	210		
TPUv7			273	273	273	TPUv7 ASP +30% vs. TPUv6
TPUv8				546	546	TPUv8 ASP 2x vs. TPUv7
TPUv9					655	Assume TPUv9 ASP +30% vs. TPUv8

Source: Company data, J.P. Morgan estimates.

29. MLCC: Auto, AI server, Humanoid drives long-term growth

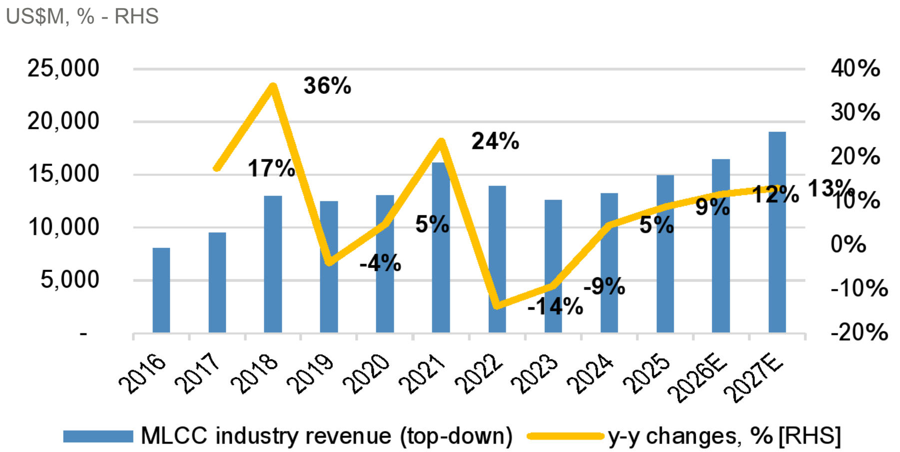
Global MLCC demand projection

Unit in billions	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026E	2027E	2028E	2029E	2030E
MLCC demand	**2,875**	**3,205**	**3,415**	**3,658**	**3,710**	**4,053**	**3,902**	**3,937**	**4,224**	**4,591**	**4,787**	**5,225**	**5,694**	**6,291**	**6,860**
y/y changes, %		*11%*	*7%*	*7%*	*1%*	*9%*	*-4%*	*1%*	*7%*	*9%*	*4%*	*9%*	*9%*	*10%*	*9%*
Mobile	**1,132**	**1,288**	**1,329**	**1,390**	**1,341**	**1,483**	**1,406**	**1,374**	**1,465**	**1,568**	**1,485**	**1,478**	**1,503**	**1,557**	**1,600**
Smartphone	897	1,060	1,105	1,136	1,058	1,178	1,111	1,094	1,167	1,254	1,179	1,177	1,194	1,233	1,265
Low-end	252	288	316	317	297	281	246	281	333	334	280	273	279	290	298
Mid-end	305	396	393	436	372	441	410	357	358	394	384	384	389	400	412
High-end	339	376	397	382	389	457	455	456	475	526	515	519	526	542	556
Tablets	127	125	109	117	141	140	124	114	126	129	122	117	117	122	127
Featurephone	94	81	80	74	65	67	64	57	54	57	54	55	57	60	61
Others	15	24	34	64	77	98	107	109	119	128	130	130	135	142	146
PC/Server	**296**	**336**	**376**	**401**	**442**	**520**	**484**	**430**	**474**	**590**	**709**	**960**	**1,205**	**1,461**	**1,679**
Desktop	130	143	155	165	140	158	148	126	128	148	147	157	176	188	198
NBPC	130	144	160	170	215	265	245	220	236	273	277	310	363	384	405
Chromebook	7	11	14	16	33	38	22	20	22	23	23	25	30	33	37
Server	27	35	45	48	52	57	67	63	87	146	262	467	635	855	1,039
GP server	27	35	45	48	52	57	65	54	60	64	90	119	142	167	189
AI server	-	-	-	-	-	-	2	8	27	82	172	348	493	688	851
Others	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1
Consumer	**811**	**848**	**900**	**955**	**985**	**993**	**991**	**1,000**	**1,043**	**1,077**	**1,099**	**1,122**	**1,153**	**1,184**	**1,230**
TV	444	452	476	490	503	491	478	484	502	511	517	533	543	554	564
Appliance	344	375	401	443	461	480	491	495	519	543	558	564	584	605	640
Others	22	21	23	22	22	22	21	22	22	23	24	25	25	26	27
Automotive	**237**	**273**	**311**	**333**	**322**	**377**	**421**	**513**	**582**	**656**	**734**	**841**	**962**	**1,118**	**1,277**
ICE	223	252	278	287	254	257	246	269	259	247	239	245	249	270	286
HEV	9	11	14	24	34	49	63	87	111	136	163	188	234	281	320
PHEV	2	3	5	5	9	18	27	41	69	85	103	121	137	158	187
EV	4	7	13	16	24	53	85	116	142	188	229	287	342	410	484
Industrial/Others	**400**	**460**	**500**	**580**	**620**	**680**	**600**	**620**	**660**	**700**	**761**	**824**	**871**	**970**	**1,073**
Auto as % of total MLCC	*8.2%*	*8.5%*	*9.1%*	*9.1%*	*8.7%*	*9.3%*	*10.8%*	*13.0%*	*13.8%*	*14.3%*	*15.3%*	*16.1%*	*16.9%*	*17.8%*	*18.6%*
EV as % of total MLCC	*0.1%*	*0.2%*	*0.4%*	*0.4%*	*0.6%*	*1.3%*	*2.2%*	*2.9%*	*3.4%*	*4.1%*	*4.8%*	*5.5%*	*6.0%*	*6.5%*	*7.1%*
Server as % of total MLCC	*0.9%*	*1.1%*	*1.3%*	*1.3%*	*1.4%*	*1.4%*	*1.7%*	*1.6%*	*2.1%*	*3.2%*	*5.5%*	*8.9%*	*11.2%*	*13.6%*	*15.2%*
Humanoid as % of total MLCC									*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.2%*	*0.6%*	*1.4%*
Auto + Server + Humanoid	***9.2%***	***9.6%***	***10.4%***	***10.4%***	***10.1%***	***10.7%***	***12.5%***	***14.6%***	***15.8%***	***17.5%***	***20.8%***	***25.1%***	***28.2%***	***32.0%***	***35.1%***
Supply mix of three segment	*22.9%*	*24.0%*	*26.0%*	*26.0%*	*24.2%*	*25.2%*	*28.8%*	*33.6%*	*36.4%*	*41.1%*	*49.9%*	*61.5%*	*70.6%*	*80.8%*	*89.6%*
y-y mix changes, %		*1.1%*	*2.0%*	*-0.1%*	*-1.8%*	*1.0%*	*3.6%*	*4.8%*	*2.8%*	*4.7%*	*8.9%*	*11.6%*	*9.1%*	*10.2%*	*8.7%*

Source: Company data, J.P. Morgan estimates.

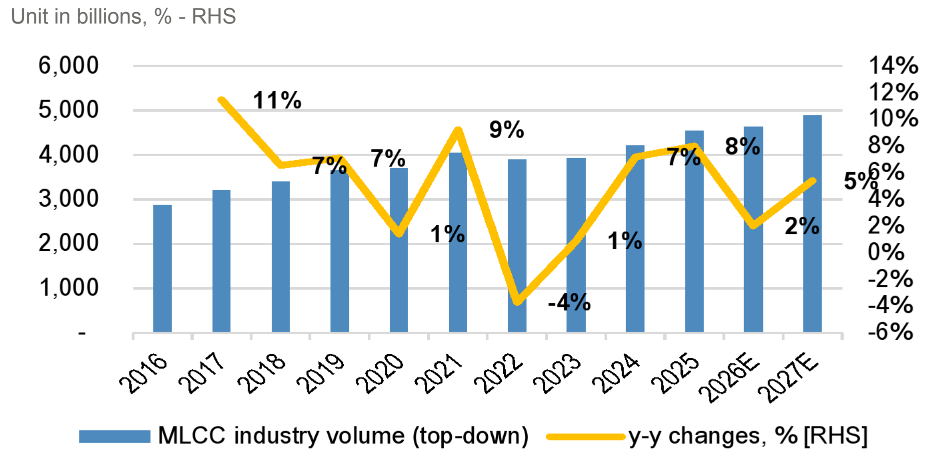
30-1. MLCC industry key charts

MLCC industry revenue and y-y



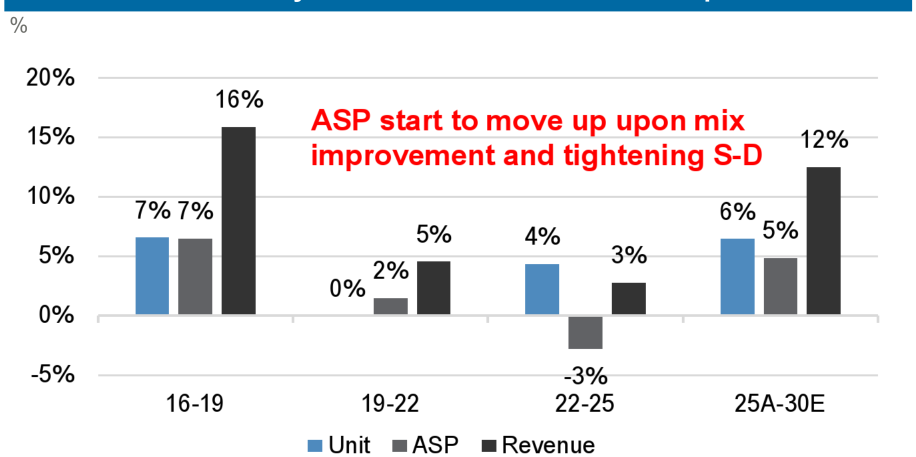
Source: Company data, J.P. Morgan estimates.

MLCC industry volume and y-y



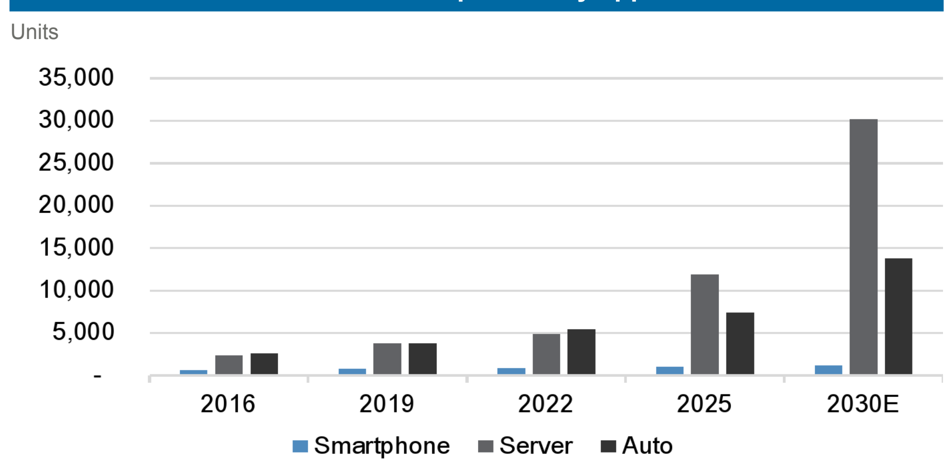
Source: Company data, J.P. Morgan estimates.

MLCC industry revenue vs volume CAGR comparison



Source: Company data, J.P. Morgan estimates.

MLCC content comparison by application

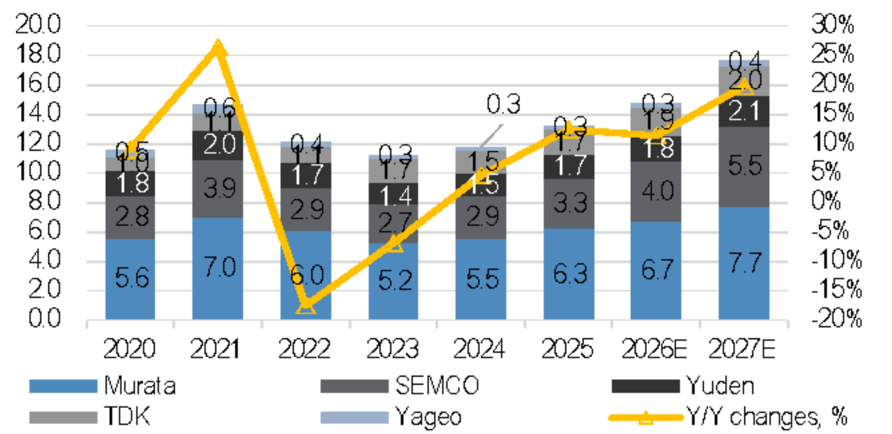


Source: Company data, J.P. Morgan estimates.

30-2. MLCC industry charts

MLCC industry bottom-up revenue and y-y trend

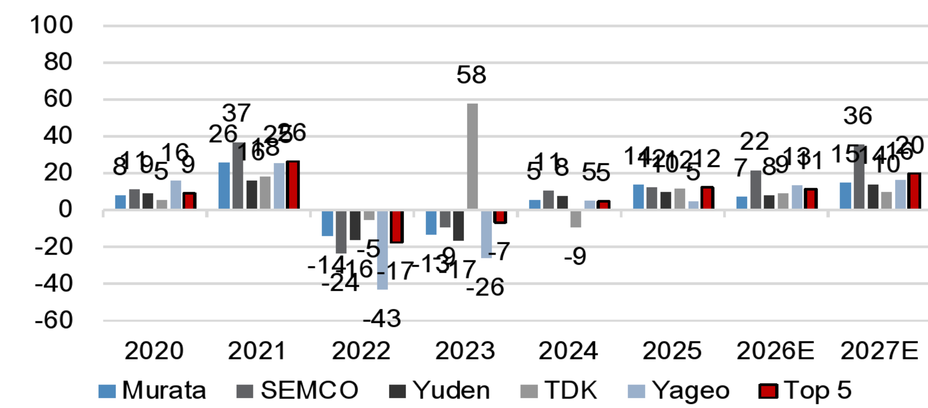
US$bn, % - RHS



Source: Company data, J.P. Morgan estimates.

MLCC industry bottom-up revenue y-y comparison for individual players

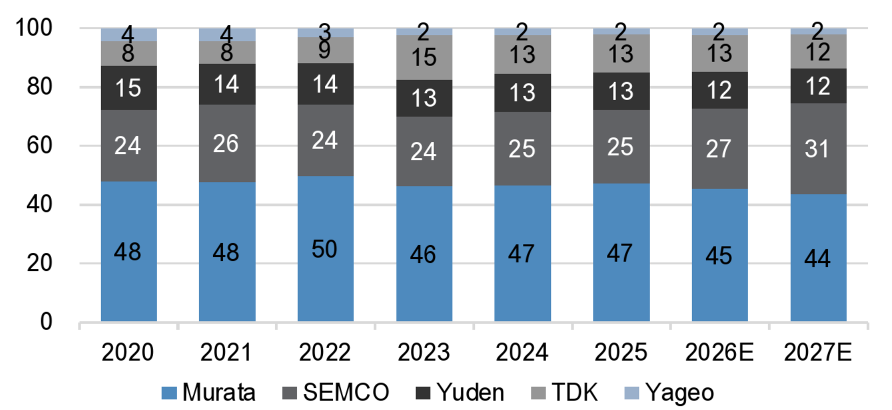
%



Source: Company data, J.P. Morgan estimates.

MLCC Industry Bottom-up Wallet Share Comparison (Value)

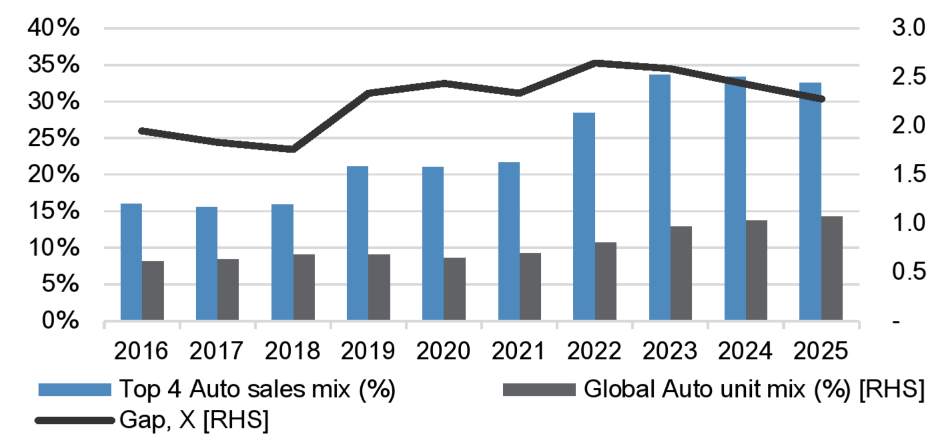
%



Source: Company data, J.P. Morgan estimates.

MLCC top 5 auto MLCC sales mix (%) and Global auto MLCC unit sales mix (%) comparison

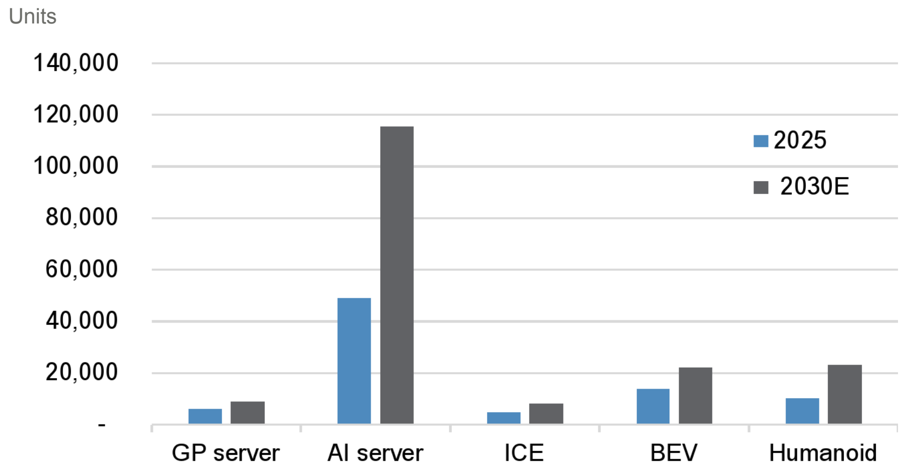
%



Source: Company data, J.P. Morgan estimates.

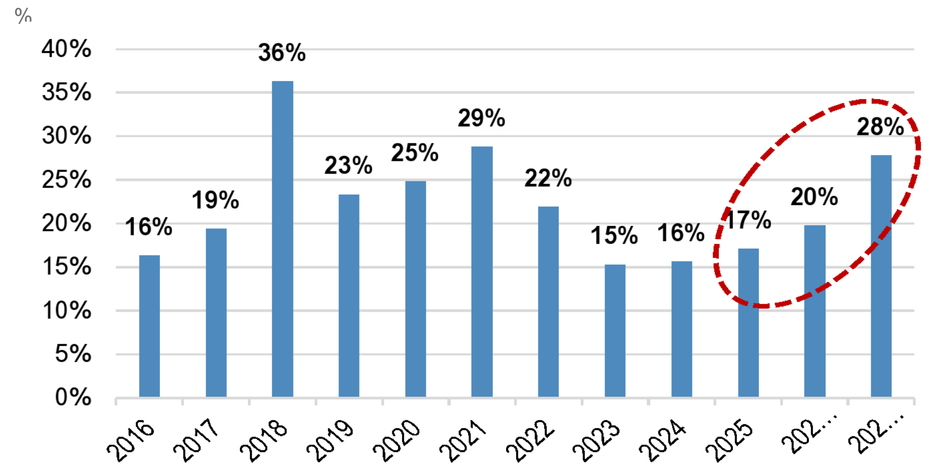
30-3. MLCC industry charts

MLCC content comparison by application for 2025 and 2030E



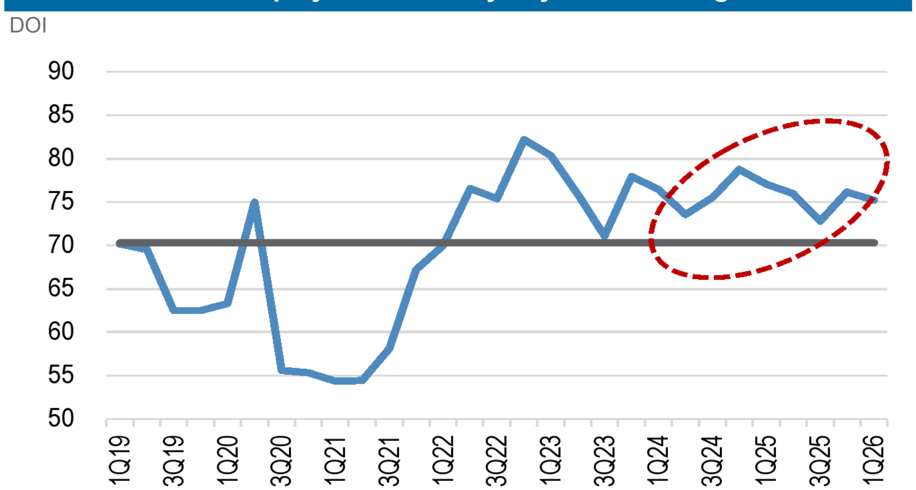
Source: Company data, J.P. Morgan estimates.

MLCC industry bottom-up OPM trend



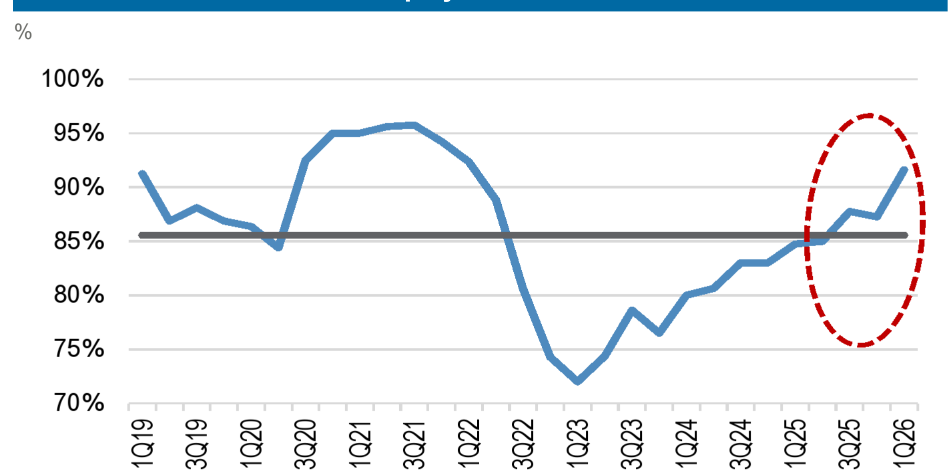
Source: Company data, J.P. Morgan estimates.

MLCC players' inventory days outstanding



Source: Company data, J.P. Morgan estimates.

MLCC player's UTR trend



Source: Company data, J.P. Morgan estimates.

31. Upward revision to iPhone EMS build

(mn units)	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	2021	2022	2023	2024	2025	2026E
iPhone EMS build (LHS)	60	40	50	88	49	46	58	83	56	48	52	94	58	55	52	85	232	243	238	236	250	250
YoY (RHS)	*1%*	*-17%*	*-10%*	*11%*	*-17%*	*15%*	*15%*	*-5%*	*14%*	*4%*	*-10%*	*13%*	*3%*	*16%*	*0%*	*-10%*	*7%*	*5%*	*-2%*	*-1%*	*6%*	*0%*
(mn units)																						
iPhone 13 mini - 2021	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6	2	0	0	0
iPhone 13 - 2021	8	6	7	7	6	5	6	5	5	3	3	2	0	0	0	0	36	53	28	22	12	0
iPhone SE3	3	2	2	2	2	1	2	1	0	0	0	0	0	0	0	0		14	10	7	0	0
iPhone 14 - 2022	10	8	9	6	6	4	4	3	2	2	1	1	0	0	0	0		15	33	18	6	0
iPhone 14 Plus - 2022	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0		15	8	1	0	0
iPhone 15 - 2023			7	17	10	10	10	6	5	6	4	3	4	3	2	1			23	37	18	9
iPhone 15 Plus - 2023			2	6	2	3	2	1	0	0	0	0	0	0	0	0			8	8	1	0
iPhone 16 - 2024							7	15	10	11	9	6	4	3	3	1				22	36	11
iPhone 16 Plus - 2024							2	4	2	2	1	1	0	0	0	0				6	6	0
iPhone 16 Pro -2024							9	20	11	10	4	1	0	0	0	0				29	26	0
iPhone 16 Pro Max - 2024							9	28	14	9	4	0	0	0	0	0				36	27	0
iPhone 16e									7	5	4	4	3	1	1	0					21	5
iPhone 17 - 2025											4	19	19	15	14	13					23	61
iPhone 17 Air - 2025											3	3	0	1	0	0					6	1
iPhone 17 Pro - 2025											7	22	8	11	4	1					29	24
iPhone 17 Pro Max - 2025											6	33	16	18	4	1					39	38
iPhone 17e													4	5	4	2						14
Foldable iPhone - 2026															2	6						8
iPhone 18 Pro - 2026															9	26						35
iPhone 18 Pro Max - 2026															9	36						45
Mix (%)																						
iPhone 13 mini - 2021	1%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	3%	1%	0%	0%	0%
iPhone 13 - 2021	13%	15%	14%	8%	12%	12%	10%	6%	8%	7%	6%	2%	1%	0%	0%	0%	15%	22%	12%	9%	5%	0%
iPhone SE3	5%	5%	5%	3%	4%	3%	3%	2%	0%	0%	0%	0%	0%	0%	0%	0%		6%	4%	3%	0%	0%
iPhone 14 - 2022	17%	20%	18%	7%	12%	10%	7%	4%	3%	4%	3%	1%	0%	0%	0%	0%		6%	14%	7%	2%	0%
iPhone 14 Plus - 2022	5%	4%	3%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		6%	3%	0%	0%	0%
iPhone 15 - 2023			14%	19%	20%	23%	18%	7%	9%	12%	8%	4%	6%	5%	4%	1%			10%	15%	7%	4%
iPhone 15 Plus - 2023			4%	7%	4%	7%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%			3%	3%	0%	0%
iPhone 16 - 2024							12%	18%	18%	23%	18%	6%	6%	5%	6%	1%				9%	14%	4%
iPhone 16 Plus - 2024							3%	5%	4%	4%	3%	1%	0%	0%	0%	0%				2%	3%	0%
iPhone 16 Pro -2024							16%	24%	19%	21%	8%	1%	0%	0%	0%	0%				12%	10%	0%
iPhone 16 Pro Max - 2024							15%	33%	25%	18%	8%	0%	0%	0%	0%	0%				15%	11%	0%
iPhone 16e									13%	11%	8%	5%	5%	2%	2%	0%					8%	2%
iPhone 17 - 2025											7%	21%	32%	27%	27%	15%					9%	24%
iPhone 17 Air - 2025											7%	3%	1%	1%	0%	0%					2%	0%
iPhone 17 Pro -2025											13%	23%	14%	20%	8%	1%					11%	10%
iPhone 17 Pro Max - 2025											12%	34%	28%	32%	8%	1%					16%	15%
iPhone 17e													6%	8%	8%	2%						5%
Foldable iPhone - 2026															4%	7%						3%
iPhone 18 Pro - 2026															17%	31%						14%
iPhone 18 Pro Max - 2026															17%	42%						18%
New model (mn units)																						
2021 - 13 series	9	7	7	7	6	5	6	5	5	3	3	2	0	0	0	0	90	108	29	22	12	0
2022 - SE 3	3	2	2	2	2	1	2	1	0	0	0	0	0	0	0	0		14	10	7	0	0
2022 - 14 series	43	27	17	8	7	4	4	3	2	2	1	1	0	0	0	0		80	94	19	6	0
2023 - 15 series			20	68	32	32	19	7	6	6	4	3	4	3	2	1			89	91	19	9
2024 - 16 series							26	67	37	31	19	8	4	3	3	1				93	95	11
2025 - 16e									7	5	4	4	3	1	1	0					21	5
2025 - 17 series											20	77	44	44	22	14					97	124
2026 - 17e													4	5	4	2						14
2026 - 18 series															20	68						88

36-1. Relative value: Korea Holdco NAV and Pref discount summary

Korea Holdco NAV and Ordinary/Preferred shares relative discount summary

Company	Ticker	Crncy	JPM Rating	Mkt Cap. Wtrn	JPM PT Won	Share Price Won	Last 2W Δ%	Last 1M Δ%	NAV Disc. %	Last 2W Δ%p	Last 1M Δ%p
SCT	028260 KS I	KRW	OW	75.2	570,000	**463,500**	17.2%	45.1%	**-59%**	-0.3%p	7.1%p
LG	003550 KS I	KRW	N	27.1	110,000	**175,500**	54.5%	83.0%	**-55%**	1.3%p	9.0%p
SK	034730 KS I	KRW	OW	47.9	870,000	**661,000**	23.1%	85.9%	**-53%**	8.8%p	10.1%p
SK Square	402340 KS I	KRW	NC	165.3	n.a.	**1,253,000**	15.3%	121.0%	**-52%**	-5.4%p	-11.1%p
KSOE	009540 KS I	KRW	OW	28.9	680,000	**408,000**	-0.6%	-3.0%	**-71%**	-2.2%p	-3.6%p
Ecopro	086520 KS I	KRW	NC	17.7	n.a.	**130,400**	3.2%	-24.6%	**54%**	-2.4%p	-14.0%p
Doosan	000150 KS I	KRW	NC	37.0	n.a.	**2,286,000**	42.3%	132.3%	**-7%**	20.4%p	27.2%p
CJ	001040 KS I	KRW	NC	5.3	n.a.	**182,300**	6.9%	-17.1%	**-46%**	-19.6%p	-20.0%p
Amorepacific	002790 KS I	KRW	NC	1.7	n.a.	**22,200**	-10.5%	-36.6%	**-62%**	-3.8%p	-4.9%p
Hankook & Co.	000240 KS I	KRW	NC	2.3	n.a.	**24,200**	0.8%	-24.4%	**-35%**	-8.5%p	-9.7%p
LX Holdings	383800 KS I	KRW	NC	0.6	n.a.	**8,310**	-12.1%	-9.5%	**-98%**	-3.0%p	-3.9%p
						Holdco avg	**12.7%**	**32.0%**	**-44%**	**-1.3%p**	**-1.3%p**
SEC Pref	005935 KS (	KRW	NC	183.7	n.a.	**229,000**	23.7%	71.5%	**-36%**	-2.0%p	-7.6%p
HMC Pref - 2	005387 KS (	KRW	NC	55.0	n.a.	**295,500**	9.4%	6.5%	**-63%**	-2.5%p	-9.2%p
LGC Pref	051915 KS (	KRW	NC	1.3	n.a.	**169,300**	-3.0%	3.6%	**-55%**	-1.4%p	-1.6%p
						Pref avg	**10.1%**	**27.2%**	**-51%**	**-2.0%p**	**-6.2%p**
KOSPI	KOSPI Index					**8,788**	16.9%	54.8%			

Source: Bloomberg Finance L.P., Company data, J.P. Morgan estimates. Note: Prices and discount as of June 1st, 2026. NC: Not Covered.

36-2. Relative value: Historical discount trend and snapshot

Korea Holdco NAV and Ordinary/Preferred shares relative discount historical trend and comparison

Company	SCT	LG	SK	SK Square	KSOE	Ecopro	Doosan	CJ	Amorepacific	Hankook & Co.	LX Holdings	SEC (Ord vs. Pref)	HMC (Ord vs. Pref)	LGC (Ord vs. Pref)
1Q18														
2Q18														
3Q18														
4Q18														
1Q19						-19%								
2Q19	-58%	-68%	-36%				-64%	-46%	-6%	-49%		-18%	-35%	-44%
3Q19	-60%	-67%	-39%			-23%	-81%	-46%	-4%	-48%		-19%	-37%	-44%
4Q19	-63%	-64%	-46%			-31%	-82%	-50%	0%	-41%		-18%	-37%	-46%
1Q20	-64%	-64%	-44%			-35%	-86%	-46%	10%	-51%		-18%	-35%	-45%
2Q20	-62%	-62%	-45%			-36%	-111%	-46%	0%	-56%		-17%	-34%	-46%
3Q20	-63%	-73%	-58%			-59%	-127%	-56%	-15%	-75%		-15%	-36%	-53%
4Q20	-66%	-73%	-53%			-59%	-122%	-56%	-18%	-63%		-13%	-43%	-49%
1Q21	-68%	-79%	-65%			-38%	-123%	-64%	-25%	-46%		-12%	-51%	-51%
2Q21	-68%	-78%	-58%			-43%	-104%	-60%	-25%	-54%	-52%	-9%	-52%	-52%
3Q21	-69%	-74%	-55%		-52%	-30%	-108%	-60%	-25%	-53%		-10%	-54%	-54%
4Q21	-70%	-80%	-56%	-58%	-54%	-64%	-88%	-61%	-28%	-50%	-55%	-8%	-52%	-55%
1Q22	-72%	-81%	-56%		-56%	-61%	-87%	-62%	-29%	-54%	-59%	-7%	-53%	-53%
2Q22	-74%	-86%	-51%	-61%	-61%	-57%	-70%	-67%	-33%	-50%	-57%	-9%	-51%	-53%
3Q22	-72%	-84%	-47%	-64%	-68%	-57%	-74%	-67%	-29%	-42%	-62%	-10%	-50%	-50%
4Q22	-69%	-77%	-49%	-68%	-72%	-62%	-78%	-68%	-32%	-47%	-64%	-8%	-51%	-52%
1Q23	-69%	-75%	-47%	-68%	-70%	-37%	-81%	-69%	-40%	-48%	-61%	-9%	-52%	-54%
2Q23	-68%	-73%	-50%	-69%	-73%	-40%	-73%	-67%	-38%	-45%	-72%	-10%	-50%	-54%
3Q23	-71%	-73%	-58%	-67%	-64%	16%	-64%	-62%	-34%	-59%	-91%	-14%	-47%	-52%
4Q23	-74%	-73%	-62%	-72%	-57%	71%	-63%	-73%	-43%	-62%	-97%	-17%	-46%	-44%
1Q24	-74%	-71%	-60%	-74%	-55%	74%	-67%	-68%	-47%	-61%	-102%	-20%	-43%	-38%
2Q24	-66%	-68%	-54%	-71%	-52%	-11%	-86%	-67%	-51%	-46%	-108%	-18%	-40%	-36%
3Q24	-62%	-67%	-56%	-66%	-51%	-4%	-79%	-60%	-51%	-54%	-113%	-16%	-36%	-33%
4Q24	-67%	-67%	-60%	-66%	-49%	6%	-72%	-63%	-54%	-46%	-112%	-20%	-36%	-31%
1Q25	-70%	-68%	-63%	-64%	-50%	-4%	-71%	-68%	-58%	-32%	-113%	-17%	-26%	-32%
2Q25	-72%	-68%	-68%	-63%	-58%	1%	-63%	-73%	-59%	-32%	-113%	-17%	-23%	-39%
3Q25	-73%	-73%	-71%	-63%	-64%	2%	-63%	-64%	-62%	-42%	-117%	-17%	-22%	-51%
4Q25	-65%	-67%	-61%	-55%	-57%	-5%	-56%	-52%	-51%	-15%	-98%	-18%	-22%	-49%
1Q26	-62%	-72%	-62%	-54%	-56%	6%	-53%	-42%	-54%	-6%	-103%	-21%	-24%	-50%

RV comps

	SCT	LG	SK	SK Square	KSOE	Ecopro	Doosan	CJ	Amorepacific	Hankook & Co.	LX Holdings	SEC Pref	HMC Pref - 2	LGC Pref
Ticker	028260 KS Equity	003550 KS Equity	034730 KS Equity	402340 KS Equity	009540 KS Equity	086520 KS Equity	000150 KS Equity	001040 KS Equity	002790 KS Equity	000240 KS Equity	383800 KS Equity	005935 KS equity	005387 KS equity	051915 KS equity
Market cap (USD, mn)	49,321	17,339	31,361	109,631	19,116	11,735	24,516	3,527	1,125	1,529	421	121,739	6,343	363
Avg Daily Traded (USD, mn)	172	67	104	556	39	344	114	26	3	3	3	504	43	5
Current Discount	**-59%**	**-55%**	**-63%**	**-52%**	**-71%**	**54%**	**-7%**	**-46%**	**-62%**	**-35%**	**-68%**	**-36%**	**-63%**	**-55%**
3Q25 Avg Discount	-73%	-73%	-71%	-63%	-64%	2%	-63%	-64%	-62%	-42%	-117%	-17%	-22%	-51%
ppt % Discount Change vs 3Q25 Avg.	14.4%	17.1%	17.6%	11.2%	-7.3%	51.3%	55.1%	17.6%	0.5%	6.4%	19.1%	-19.4%	-40.4%	-3.5%
Discount Change vs Last week	-3.3%	5.0%	-2.4%	-5.3%	-1.7%	3.3%	0.9%	-1.3%	-1.3%	1.5%	0.3%	-0.5%	-4.3%	1.3%
Avg Discount (Past Year)	-62%	-63%	-61%	-52%	-60%	30%	-50%	-41%	-54%	-16%	-100%	-24%	-33%	-50%
Avg Discount (5 yrs)	-69%	-73%	-53%	-64%	-60%	-5%	-69%	-61%	-45%	-42%	-90%	-16%	-41%	-46%
Z Score (1yr)	1.27	2.76	(0.27)	1.09	(1.87)	0.75	2.67	1.52	(1.40)	(1.13)	1.06	(1.93)	(2.17)	(2.04)
Z Score (3yr)	1.63	3.17	(0.03)	1.79	(2.18)	0.98	2.73	2.25	(0.87)	0.55	1.45	(3.19)	(2.56)	(1.38)
Z Score (5yr)	2.15	2.50	(0.62)	2.22	(1.15)	1.34	3.09	2.97	(1.15)	0.95	(0.23)	(2.93)	(1.71)	(0.84)

Source: Bloomberg Finance L.P., Company data, J.P. Morgan. Note: Prices as of June 1st, 2026.

Company slides

Samsung Electronics (OW): Earnings model

Won in billions, year-end December

	2025				2026E				2027E				2024	2025	2026E	2027E	2028E
	1Q	2Q	3Q	4Q	1Q	2QE	3QE	4QE	1QE	2QE	3QE	4QE					
Revenue	**79,141**	**74,566**	**86,062**	**93,837**	**133,873**	**171,931**	**188,990**	**194,647**	**202,141**	**210,266**	**226,504**	**233,250**	**300,871**	**333,606**	**689,442**	**872,161**	**1,017,969**
DS (Semi)	25,111	27,917	33,089	44,059	81,703	128,198	142,185	152,652	158,563	171,514	182,094	190,979	111,070	130,177	504,738	703,151	845,749
DRAM	12,709	13,802	18,087	26,987	53,795	88,765	98,994	103,715	109,186	118,963	128,855	138,097	51,803	71,585	345,269	495,100	613,780
NAND/others	6,417	7,412	8,568	10,169	20,973	32,344	35,576	39,964	41,094	44,017	44,279	43,298	32,713	32,567	128,857	172,688	192,488
System LSI and Foundry	5,984	6,703	6,434	6,903	6,935	7,088	7,615	8,973	8,283	8,534	8,960	9,585	26,554	26,024	30,612	35,362	39,482
DP (Display)	5,883	6,426	8,103	9,514	6,682	6,887	9,083	10,776	6,352	7,284	9,220	10,887	29,115	29,927	33,428	33,743	35,403
DX (Device Experience)	51,480	43,295	47,983	44,102	52,402	46,666	47,362	40,706	48,122	41,954	45,480	40,968	173,682	186,860	187,135	176,524	176,763
MX (Mobile Experience)	36,999	29,195	34,098	29,296	38,090	32,057	33,361	26,874	34,730	28,209	31,977	27,267	117,240	129,589	130,382	122,183	122,928
VD/HA (Visual Display & Appliance)	14,481	14,099	13,885	14,806	14,312	14,609	14,001	13,832	13,391	13,746	13,503	13,702	56,443	57,271	56,754	54,342	53,835
Harman	3,400	3,800	4,000	4,600	3,800	4,180	4,360	5,014	4,104	4,514	4,709	5,415	14,250	15,800	17,354	18,742	20,054
Others	-6,734	-6,872	-7,114	-8,438	-10,713	-14,000	-14,000	-14,500	-15,000	-15,000	-15,000	-15,000	-27,246	-29,158	-53,213	-60,000	-60,000
Dep. & Amor. Expenses	-11,519	-11,357	-11,819	-12,232	-12,380	-12,843	-13,224	-13,604	-14,086	-14,539	-15,008	-15,447	-42,631	-46,927	-52,051	-59,080	-71,738
COGS	-51,010	-49,070	-52,570	-49,586	-52,000	-34,185	-38,833	-33,522	-46,867	-26,568	-33,236	-29,210	-186,562	-202,236	-158,539	-135,881	-143,206
Gross Profit	**28,131**	**25,497**	**33,492**	**44,251**	**81,873**	**137,746**	**150,157**	**161,126**	**155,273**	**183,698**	**193,268**	**204,040**	**114,309**	**131,370**	**530,903**	**736,279**	**874,764**
Operating Expense	-21,445	-20,821	-21,326	-24,177	-24,641	-46,288	-46,832	-50,151	-37,206	-54,506	-56,127	-60,097	-81,583	-87,769	-167,911	-207,936	-239,987
EBIT	**6,685**	**4,676**	**12,166**	**20,074**	**57,233**	**91,458**	**103,326**	**110,974**	**118,068**	**129,192**	**137,140**	**143,943**	**32,726**	**43,601**	**362,992**	**528,343**	**634,776**
DS (Semi)	1,069	640	7,171	16,407	53,677	88,791	100,573	109,072	116,404	127,615	135,222	142,515	15,128	25,287	352,113	521,757	628,783
DS OPM (%)	*4.3*	*2.3*	*21.7*	*37.2*	*65.7*	*69.3*	*70.7*	*71.5*	*73.4*	*74.4*	*74.3*	*74.6*	*13.6*	*19.4*	*69.8*	*74.2*	*74.3*
DP (Display)	520	529	1,225	1,990	402	418	1,350	1,838	336	602	1,416	1,900	3,780	4,264	4,008	4,254	4,452
DP OPM (%)	*8.8*	*8.2*	*15.1*	*20.9*	*6.0*	*6.1*	*14.9*	*17.1*	*5.3*	*8.3*	*15.4*	*17.5*	*13.0*	*14.2*	*12.0*	*12.6*	*12.6*
DX (Device Experience)	4,674	3,318	3,482	1,302	3,016	2,049	1,153	-236	1,190	774	252	-773	12,446	12,776	5,981	1,444	654
DX OPM (%)	*12.6*	*11.4*	*10.2*	*4.4*	*7.9*	*6.4*	*3.5*	*-0.9*	*3.4*	*2.7*	*0.8*	*-2.8*	*10.6*	*9.9*	*4.6*	*1.2*	*0.5*
Others (incl. Harman/adjustment)	422	189	288	375	138	200	250	300	138	200	250	300	1,373	1,275	888	888	888
Non operating incomes	2,466	1,080	1,380	955	1,596	1,872	2,275	2,973	3,775	3,438	4,372	5,429	4,804	5,880	8,715	17,014	29,740
Pre Tax Profit	**9,152**	**5,756**	**13,546**	**21,028**	**58,828**	**93,330**	**105,601**	**113,947**	**121,842**	**132,629**	**141,513**	**149,372**	**37,530**	**49,481**	**371,707**	**545,357**	**664,517**
Tax	-929	-640	-1,320	-1,386	-11,603	-18,666	-21,120	-22,789	-24,368	-26,526	-28,303	-29,874	-3,078	-4,275	-74,179	-109,071	-132,903
Minority Interest	-194	-182	-219	-350	-124	-1,867	-2,112	-2,279	-2,437	-2,653	-2,830	-2,987	-830	-946	-6,382	-10,907	-13,290
Net Profit (After minority interest)	**8,028**	**4,934**	**12,006**	**19,292**	**47,101**	**72,797**	**82,369**	**88,879**	**95,037**	**103,451**	**110,380**	**116,510**	**33,621**	**44,261**	**291,146**	**425,378**	**518,323**
EPS (W)	**1,345**	**827**	**2,011**	**3,310**	**8,082**	**12,491**	**14,134**	**15,251**	**16,308**	**17,751**	**18,940**	**19,992**	**5,433**	**7,258**	**49,724**	**70,359**	**86,291**
EPS (W) inc. pref. Shares	**1,182**	**726**	**1,768**	**2,910**	**7,104**	**10,980**	**12,423**	**13,405**	**14,334**	**15,603**	**16,648**	**17,573**	**4,950**	**6,555**	**43,912**	**64,158**	**78,176**
EBITDA	18,204	16,033	23,985	32,306	69,613	104,302	116,550	124,578	132,153	143,731	152,148	159,389	75,357	90,528	415,042	587,423	706,514
CAPEX	-12,128	-13,040	-10,810	-11,544	-17,130	-18,350	-19,750	-20,450	-20,325	-21,575	-22,575	-24,825	-51,406	-47,522	-75,680	-89,300	-104,300

Source: Company data, J.P. Morgan estimates.

SK hynix (OW): Earnings model

Won in billions, year-end December

(W in billion)	2025				2026E				2027E								
	1Q	2Q	3Q	4Q	1Q	2QE	3QE	4QE	1QE	2QE	3QE	4QE	2024	2025	2026E	2027E	2028E
Revenue	**17,639**	**22,232**	**24,449**	**32,827**	**52,576**	**88,136**	**99,103**	**107,732**	**110,568**	**119,033**	**126,834**	**134,196**	**66,193**	**97,147**	**347,547**	**490,631**	**597,583**
DRAM	14,037	17,124	19,084	24,659	40,195	66,835	75,646	82,402	84,025	90,089	98,233	107,044	44,732	74,904	265,079	379,390	475,128
NAND Flash	3,229	4,728	4,989	7,744	11,980	20,901	23,057	24,929	26,144	28,544	28,201	26,752	19,274	20,690	80,867	109,641	120,854
Others	373	380	376	423	401	400	400	400	400	400	400	400	2,187	1,552	1,601	1,600	1,600
Depreciation	-3,124	-3,249	-3,360	-3,366	-3,520	-4,001	-4,518	-4,666	-5,236	-5,848	-6,504	-7,206	-12,582	-13,930	-17,566	-25,763	-38,510
COGS	7,537	10,249	10,420	10,250	10,897	11,831	11,903	11,548	13,545	13,981	15,220	17,457	-34,365	-38,456	-46,180	-60,202	-81,280
Gross Profit	**10,102**	**11,983**	**14,029**	**22,576**	**41,679**	**76,305**	**87,200**	**96,183**	**97,023**	**105,052**	**111,614**	**116,740**	**31,828**	**58,691**	**301,368**	**430,429**	**516,302**
SG&A Expenses	2,661	2,770	2,646	3,407	4,069	6,170	6,937	8,619	8,403	9,046	9,639	10,199	8,361	11,484	25,794	37,288	46,611
% of Revenue (%)	*15*	*12*	*11*	*10*	*8*	*7*	*7*	*8*	*8*	*8*	*8*	*8*	*13*	*12*	*7*	*8*	*8*
EBIT	**7,441**	**9,213**	**11,383**	**19,170**	**37,610**	**70,136**	**80,263**	**87,565**	**88,620**	**96,005**	**101,975**	**106,541**	**23,467**	**47,206**	**275,573**	**393,141**	**469,691**
DRAM	7,337	9,378	11,124	16,574	30,806	55,063	63,177	68,595	68,727	74,288	81,082	87,790	20,259	44,413	217,640	311,887	384,648
Margin (%)	*52*	*55*	*58*	*67*	*77*	*82*	*84*	*83*	*82*	*82*	*83*	*82*	*45*	*59*	*82*	*82*	*81*
Flash/SRAM	81	-189	234	2,579	6,781	15,049	17,062	18,946	19,869	21,693	20,869	18,726	3,115	2,705	57,838	81,158	84,947
Margin (%)	*3*	*-4*	*5*	*33*	*57*	*72*	*74*	*76*	*76*	*76*	*74*	*70*	*16*	*13*	*72*	*74*	*70*
Others	23	24	25	16	23	24	24	24	24	24	24	24	94	88	95	96	96
Margin (%)	*6*	*6*	*7*	*4*	*6*	*6*	*6*	*6*	*6*	*6*	*6*	*6*	*4*	*6*	*6*	*6*	*6*
Net Interest Income	-126	-129	-103	-72	22	93	264	688	981	947	1,281	1,915	-1,000	-429	1,067	5,124	9,197
Net Other Income	1,985	-361	3,510	-1,445	13,985	831	941	1,027	1,056	1,140	1,218	1,292	1,418	3,689	16,785	4,706	5,776
Pre Tax Profit	9,299	8,723	14,790	17,653	51,617	71,061	81,468	89,280	90,657	98,092	104,474	109,748	23,885	50,466	293,425	402,971	484,663
Tax	1,191	1,726	2,193	2,407	11,271	15,989	18,330	20,088	20,398	22,071	23,507	24,693	4,088	7,518	65,678	90,669	109,049
Extraordinary gain(loss)	-	1	- 2.34	- 26.17	- 15.73	-	-	-	-	-	-	-	0	-28	-16	0	0
Net Profit	**8,108**	**6,997**	**12,595**	**15,220**	**40,330**	**55,072**	**63,137**	**69,192**	**70,259**	**76,021**	**80,967**	**85,055**	**19,797**	**42,920**	**227,732**	**312,303**	**375,614**
EPS (W)	**11,136**	**9,610**	**17,299**	**20,904**	**56,581**	**76,447**	**87,648**	**95,044**	**97,854**	**107,375**	**112,376**	**116,036**	**27,190**	**58,987**	**316,147**	**433,828**	**539,093**
Margins (%)																	
Gross Margin	57	54	57	69	79	87	88	89	88	88	88	87	48	60	87	88	86
Operating Margin	42	41	47	58	72	80	81	81	80	81	80	79	35	49	79	80	79
EBITDA Margin	60	56	60	69	78	84	86	86	85	86	86	85	54	63	84	85	85
Net Margin	46	31	52	46	77	62	64	64	64	64	64	63	30	44	66	64	63
Sequential Growth (%)																	
Revenue	-11	26	10	34	60	68	12	9	3	8	7	6	102	47	258	41	22
Gross Profit	-3	19	17	61	85	83	14	10	1	8	6	5	na	84	413	43	20
EBIT	-8	24	24	68	96	86	14	9	1	8	6	4	na	101	484	43	19
Net Profit	1	-14	80	21	165	37	15	10	2	8	7	5	na	117	431	37	20
EPS	1	-14	80	21	171	35	15	8	3	10	5	3	na	117	436	37	24
EBITDA	10,565	12,462	14,744	22,536	41,130	74,137	84,780	92,230	93,855	101,853	108,479	113,747	35,453	60,306	292,277	417,935	507,111
CAPEX	-6,284	-4,332	-5,032	-11,871	-7,657	-10,500	-12,000	-13,000	-13,000	-14,000	-15,000	-16,000	-15,946	-27,519	-43,157	-58,000	-74,000

Samsung vs. Hynix – DRAM business comparison

Samsung – DRAM operation assumptions

Sales Won in billions, US$, changes/margin (%)

(8Gb equiv.)	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	2024	2025	2026E	2027E
Sales (W billion)	**12,709**	**13,802**	**18,087**	**26,987**	**53,795**	**88,765**	**98,994**	**103,715**	**109,186**	**118,963**	**128,855**	**138,097**	**51,863**	**71,585**	**345,269**	**495,100**
Unit shipments (8Gb equiv.)	3,200	3,552	4,102	4,185	4,308	4,532	4,672	4,665	4,937	5,248	5,672	6,112	13,890	15,039	18,177	21,969
Sequential change, %	*1%*	*11%*	*16%*	*2%*	*3%*	*5%*	*3%*	*0%*	*6%*	*6%*	*8%*	*8%*	*15%*	*8%*	*21%*	*21%*
Blended ASP (8Gb equiv.), US$	2.7	2.8	3.2	4.5	8.5	13.4	14.8	15.5	15.8	16.2	16.2	16.1	2.7	3.3	13.2	16.1
Sequential change, %	*-19%*	*1%*	*15%*	*40%*	*92%*	*57%*	*10%*	*5%*	*2%*	*3%*	*0%*	*-1%*	*61%*	*22%*	*294%*	*22%*
Total cost, US$	1.9	2.0	1.9	2.0	1.8	2.9	3.4	3.4	3.2	3.2	3.1	3.0	1.9	2.0	2.9	3.1
Cash cost, US$	1.0	1.2	1.1	1.1	0.9	2.1	2.5	2.5	2.2	2.2	2.1	2.1	1.1	1.1	2.0	2.1
Operating profit	**3,879**	**3,711**	**7,307**	**14,973**	**42,695**	**69,439**	**76,514**	**80,880**	**87,320**	**95,721**	**104,429**	**112,423**	**16,055**	**29,870**	**269,528**	**399,892**
OP margin (%)	*31%*	*27%*	*40%*	*55%*	*79%*	*78%*	*77%*	*78%*	*80%*	*80%*	*81%*	*81%*	*31%*	*42%*	*78%*	*81%*
Cost reduction, Q/Q																
Total cost	*-16%*	*7%*	*-7%*	*5%*	*-11%*	*66%*	*15%*	*2%*	*-8%*	*0%*	*-3%*	*-2%*				
Cash cost	*-25%*	*20%*	*-8%*	*6%*	*-21%*	*129%*	*20%*	*1%*	*-12%*	*0%*	*-3%*	*-3%*				
Cost reduction, Y/Y																
Total cost	*7%*	*23%*	*0%*	*-13%*	*-7%*	*44%*	*78%*	*73%*	*80%*	*8%*	*-9%*	*-12%*	*6%*	*3%*	*48%*	*7%*
Cash cost	*-11%*	*17%*	*-3%*	*-13%*	*-7%*	*77%*	*129%*	*118%*	*143%*	*6%*	*-14%*	*-17%*	*9%*	*-2%*	*83%*	*7%*
HBM Sales	1,318	1,780	2,734	3,514	3,728	5,682	9,480	10,431	12,238	15,375	17,316	18,166	9,477	9,345	29,321	63,095
HBM Sales mix (%)	*10%*	*13%*	*15%*	*13%*	*7%*	*6%*	*10%*	*10%*	*11%*	*13%*	*13%*	*13%*	*18%*	*13%*	*8%*	*13%*
HBM bit shipment (mn, 8Gb eqv)	71	96	159	192	199	269	408	434	495	538	586	594	630	518	1,311	2,213
HBM bit mix (%)	*2%*	*3%*	*4%*	*5%*	*5%*	*6%*	*9%*	*9%*	*10%*	*10%*	*10%*	*10%*	*5%*	*3%*	*7%*	*10%*
HBM ASP (US$)	12.8	13.3	12.4	12.6	12.8	14.5	16.2	16.8	17.7	20.4	21.1	21.9	10.9	12.7	15.5	20.4
HBM ASP premium (%) vs. non-HBM	*5*	*5*	*4*	*3*	*2*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*4.7*	*4.2*	*1.2*	*1.3*
HBM capacity (TSV eqv, K/month)	**135**	**135**	**150**	**160**	**170**	**180**	**200**	**200**	**220**	**240**	**260**	**260**	**99**	**145**	**188**	**245**

Source: Company data, J.P. Morgan estimates.

SK Hynix – DRAM operation assumptions

Sales Won in billions, US$, changes/margin (%)

US$ millions, US$, 8Gb equiv, K/month	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	2024	2025	2026E	2027E	2028E
ASP (US$)	4.3	4.4	4.6	5.6	9.1	14.0	15.4	16.3	16.5	17.0	17.3	17.6	3.7	4.8	13.9	17.1	17.8
Seq. change, %	*0.7*	*1.5*	*4.3*	*23.1*	*62.5*	*53.2*	*10.3*	*5.6*	*1.1*	*3.0*	*1.6*	*1.7*	*79.1*	*30.1*	*191.8*	*23.2*	*4.4*
Operating cost (US$)	2.1	2.0	1.9	1.8	2.1	2.5	2.5	2.7	3.0	3.0	3.0	3.2	2.0	1.9	2.5	3.0	3.4
Cash Cost (US$)	1.5	1.5	1.4	1.3	1.6	1.9	1.9	2.0	2.2	2.1	2.1	2.2	1.5	1.4	1.8	2.1	2.2
Cost change, %	*-5%*	*-4%*	*-4%*	*-3%*	*16%*	*16%*	*3%*	*7%*	*10%*	*-1%*	*1%*	*5%*	*-1%*	*-4%*	*28%*	*23%*	*12%*
Cash cost chg. %	*-10%*	*-1%*	*-5%*	*-5%*	*19%*	*18%*	*0%*	*6%*	*9%*	*-4%*	*0%*	*5%*	*7%*	*-3%*	*30%*	*15%*	*4%*
Shipments (mn)	2,242	2,795	3,013	3,028	3,014	3,249	3,427	3,534	3,642	3,790	4,065	4,356	8,933	11,077	13,224	15,853	19,024
Seq. change, %	*-7.1*	*24.7*	*7.8*	*0.5*	*-0.4*	*7.8*	*5.5*	*3.1*	*3.1*	*4.1*	*7.3*	*7.1*	*16.0*	*24.0*	*19.4*	*19.9*	*20.0*
Sales	**14,037**	**17,124**	**19,084**	**24,659**	**40,195**	**66,835**	**75,646**	**82,402**	**84,025**	**90,089**	**98,233**	**107,044**	**44,732**	**74,904**	**265,079**	**379,390**	**475,128**
OP	7,337	9,378	11,124	16,574	30,806	55,063	63,177	68,595	68,727	74,288	81,082	87,790	20,259	44,413	217,640	311,887	384,648
OP margin (%)	*52*	*55*	*58*	*67*	*77*	*82*	*84*	*83*	*82*	*82*	*83*	*82*	*45*	*59*	*82*	*82*	*81*
Revenue per wafer (US$)	**8,829**	**11,023**	**12,071**	**14,546**	**22,659**	**36,084**	**39,625**	**41,757**	**49,397**	**51,071**	**52,559**	**55,406**	**8,035**	**11,669**	**35,285**	**52,214**	**65,391**
HBM Sales (US$M)	**4,093**	**4,871**	**5,367**	**5,855**	**6,255**	**7,221**	**8,726**	**9,619**	**10,513**	**12,401**	**15,267**	**19,450**	**9,232**	**20,186**	**31,821**	**57,632**	**102,902**
HBM Sales mix (%)	*29*	*28*	*28*	*24*	*16*	*11*	*12*	*12*	*13*	*14*	*16*	*18*	*21*	*27*	*12*	*15*	*22*
HBM bit shipment (mn)	**311**	**354**	**380**	**423**	**445**	**500**	**540**	**546**	**594**	**620**	**706**	**829**	**726**	**1,468**	**2,031**	**2,749**	**4,157**
HBM bit mix (%)	*14*	*13*	*13*	*14*	*15*	*15*	*16*	*15*	*16*	*16*	*17*	*19*	*8*	*13*	*15*	*17*	*22*
HBM ASP (US$)	**1.6**	**1.7**	**1.8**	**1.7**	**1.8**	**1.8**	**2.0**	**2.2**	**2.2**	**2.5**	**2.7**	**2.9**	**1.6**	**1.7**	**2.0**	**2.6**	**3.1**
HBM ASP premium (%) vs. non-HBM	*5*	*5*	*4*	*3*	*2*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*4*	*4*	*1*	*1*	*2*
HBM capacity (TSV equivalent, K/mon	**145**	**155**	**160**	**170**	**180**	**200**	**220**	**220**	**230**	**240**	**275**	**300**	**99**	**158**	**205**	**261**	**335**

Samsung vs. Hynix – NAND business comparison

Samsung – NAND operation assumptions

Sales Won in billions, US$, changes/margin (%)

(64Gb equivalent)	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	2024	2025	2026E	2027E
Sales (W billion)	**6,322**	**7,362**	**8,468**	**10,064**	**20,853**	**32,218**	**35,444**	**39,825**	**40,962**	**43,879**	**44,133**	**43,145**	**32,025**	**32,217**	**128,340**	**172,119**
Unit shipments (64Gb equiv.)	7,284	9,214	10,090	9,182	10,008	10,208	10,616	11,253	11,479	11,938	12,773	13,284	36,776	35,770	42,086	49,474
Sequential change, %	*-16%*	*27%*	*10%*	*-9%*	*9%*	*2%*	*4%*	*6%*	*2%*	*4%*	*7%*	*4%*	*14%*	*-3%*	*18%*	*18%*
Blended ASP (64Gb equiv.), US$	0.60	0.57	0.61	0.76	1.42	2.16	2.33	2.47	2.55	2.63	2.47	2.32	0.64	0.63	2.11	2.48
Sequential change, %	*-10%*	*-5%*	*6%*	*25%*	*88%*	*52%*	*8%*	*6%*	*3%*	*3%*	*-6%*	*-6%*	*65%*	*-1%*	*233%*	*18%*
Total cost, US$	0.63	0.60	0.56	0.57	0.62	0.81	0.70	0.70	0.69	0.66	0.67	0.66	0.55	0.59	0.71	0.67
Cash cost, US$	0.39	0.41	0.38	0.39	0.45	0.65	0.55	0.55	0.54	0.52	0.54	0.53	0.36	0.39	0.55	0.53
Operating profit	**-316**	**-350**	**645**	**2,427**	**11,785**	**20,194**	**24,811**	**28,542**	**29,902**	**32,909**	**32,217**	**30,848**	**4,391**	**2,406**	**85,332**	**125,877**
OP margin (%)	*-5%*	*-5%*	*8%*	*24%*	*57%*	*63%*	*70%*	*72%*	*73%*	*75%*	*73%*	*72%*	*14%*	*7%*	*66%*	*73%*
Cost reduction, Q/Q																
Total cost	0.0%	-4.7%	-6.5%	2.7%	7.7%	30.5%	-13.2%	0.1%	-1.8%	-4.6%	1.5%	-0.8%	*-14.9%*	*6.6%*	*20.4%*	*-5.6%*
Cash cost	-6.3%	5.6%	-7.6%	2.0%	16.5%	43.2%	-15.8%	1.4%	-2.3%	-4.5%	4.2%	-0.5%	*-17.0%*	*9.5%*	*40.1%*	*-3.3%*
Cost reduction, Y/Y																
Total cost	31.5%	20.5%	-8.7%	-8.5%	-1.5%	34.9%	25.3%	22.1%	11.3%	-18.6%	-4.9%	-5.7%	-14.9%	6.6%	20.4%	-5.6%
Cash cost	28.2%	28.7%	-5.4%	-6.8%	15.9%	57.2%	43.3%	42.4%	19.4%	-20.4%	-1.5%	-3.3%	-17.0%	9.5%	40.1%	-3.3%

Source: Company data, J.P. Morgan estimates.

SK Hynix – NAND operation assumptions

Sales Won in billions, US$, changes/margin (%)

64Gb equiv.	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	2024	2025	2026E	2027E	2028E
ASP US$ (64Gb equiv.)	0.7	0.6	0.6	0.9	1.5	2.3	2.4	2.6	2.7	2.8	2.6	2.4	0.7	0.7	2.2	2.6	2.4
Q/Q ASP, %	*-19.5*	*-10.4*	*11.0*	*33.4*	*72.5*	*52.0*	*8.0*	*6.0*	*3.0*	*3.0*	*-5.0*	*-7.0*	*96.4*	*-6.6*	*221.2*	*17.1*	*-6.8*
Operating cost (US$)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.6	0.7	0.7
Cash Cost (US$)	0.4	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.4	0.4	0.5	0.6	0.6
Cost change, %	*-2%*	*-4%*	*2%*	*-7%*	*12%*	*-2%*	*0%*	*-2%*	*3%*	*3%*	*3%*	*7%*	*-11%*	*-3%*	*5%*	*7%*	*7%*
Cash cost chg. %	*-14%*	*19%*	*1%*	*-1%*	*13%*	*0%*	*0%*	*4%*	*3%*	*4%*	*3%*	*8%*	*-7%*	*4%*	*16%*	*12%*	*6%*
Shipments (64Gb equiv.)	3,415	5,789	5,554	6,187	5,507	6,277	6,591	6,723	6,992	7,412	7,708	7,862	18,995	20,945	25,099	29,974	35,432
Q/Q or Y/Y change, %	*-17.6*	*69.5*	*-4.1*	*11.4*	*-11.0*	*14.0*	*5.0*	*2.0*	*4.0*	*6.0*	*4.0*	*2.0*	*-1.8*	*10.3*	*19.8*	*19.4*	*18.2*
Sales	**3,229**	**4,728**	**4,989**	**7,744**	**11,980**	**20,901**	**23,057**	**24,929**	**26,144**	**28,544**	**28,201**	**26,752**	**19,274**	**20,690**	**80,867**	**109,641**	**120,854**
OP	81	-189	234	2,579	6,781	15,049	17,062	18,946	19,869	21,693	20,869	18,726	3,115	2,705	57,838	81,158	84,947
OP margin (%)	*3*	*-4*	*5*	*33*	*57*	*72*	*74*	*76*	*76*	*76*	*74*	*70*	*16*	*13*	*72*	*74*	*70*
Revenue per wafer (US$)	**2,648**	**4,022**	**4,283**	**6,363**	**9,768**	**16,927**	**19,195**	**20,753**	**22,231**	**24,272**	**23,981**	**22,748**	**4,204**	**4,331**	**16,627**	**23,308**	**25,692**

Source: Company data, J.P. Morgan estimates.

Kioxia(OW): Earnings model

Won in billions, year-end December

(mn JPY)	2024/3	2025/3	2026/3					2027/3					2028/3	2029/3	2027/3
	FY	FY	1Q	2Q	3Q	4Q	FY	1Q	2Q	3Q	4Q	FY	FY	FY	1Q
	Act	Act	Act	Act	Act	Act	Act	JPMe	JPMe	JPMe	JPMe	JPMe	JPMe	JPMe	CoE
Revenue	1,076,584	1,706,460	342,799	448,346	543,631	1,002,852	2,337,628	1,833,200	2,374,100	2,586,500	2,480,200	9,274,000	12,541,700	15,932,700	1,750,000
SSD & Storage	516,361	991,147	217,411	244,559	300,400	600,300	1,362,638	1,314,100	1,708,700	1,829,600	1,804,600	6,657,000	9,853,000	13,341,200	--
Smart Devices	374,293	501,142	79,040	157,300	186,300	337,300	759,978	426,100	600,100	660,100	607,800	2,294,200	2,378,800	2,266,900	--
Other	185,930	214,171	46,348	46,487	56,900	65,300	215,012	65,300	65,300	65,300	67,800	263,700	273,700	283,700	--
Revenue YoY%	-16%	59%	-20%	-7%	21%	189%	37%	435%	430%	376%	147%	297%	35%	27%	411%
SSD & Storage	-21%	92%	-3%	-11%	8%	179%	37%	504%	599%	509%	201%	389%	48%	35%	--
Smart Devices	-15%	34%	-48%	3%	59%	324%	52%	439%	282%	254%	80%	202%	4%	-5%	--
Other	-1%	15%	-13%	-14%	5%	25%	0%	41%	40%	15%	4%	23%	4%	4%	--
Operating profit	-252,698	451,748	44,899	85,921	142,754	596,795	870,369	1,309,600	1,756,800	1,947,800	1,855,200	6,869,400	9,650,400	12,523,900	1,298,000
YoY%	--	--	-64%	-48%	16%	1507%	93%	2817%	1945%	1264%	211%	689%	40%	30%	2791%
OPM %	-23%	26%	13%	19%	26%	60%	37%	71%	74%	75%	75%	74%	77%	79%	74%
Profit before tax	-343,330	370,669	27,294	56,716	121,740	578,345	784,095	--	--	--	--	6,806,900	9,604,900	12,486,900	--
Net income	-243,728	272,315	18,284	40,662	87,810	407,734	554,490	--	--	--	--	5,000,900	7,056,500	9,173,800	869,000
Capex	305,097	225,603	53,577	91,473	70,933	67,691	283,674	--	--	--	--	453,900	499,300	549,200	--
D&A	346,066	312,307	79,987	78,852	77,600	76,407	312,846	--	--	--	--	317,200	380,000	482,500	--
R&D	141,030	132,798	34,479	35,731	34,300	36,565	141,075	--	--	--	--	148,100	155,500	163,300	--
Key indicators															
Bit growth YoY%	--	--	--	--	--	--	--	32%	12%	12%	17%	17%	20%	19%	
Price YoY%	--	--	--	--	--	--	--	265%	334%	307%	109%	222%	13%	7%	
Bit growth QoQ%	--	--	--	--	--	--	--	4%	15%	4%	-6%	--	--	--	
Price QoQ%	--	--	--	--	--	--	--	71%	14%	3%	3%	--	--	--	
Forex															
USDJPY	144	153	145	147	153	155	150	0	0	0	0	158	158	158	159
Key financial indicators															
OPM	-23.5%	26.5%	13.1%	19.2%	26.3%	59.5%	37.2%	0.0%	0.0%	0.0%	0.0%	74.1%	76.9%	78.6%	74.2%
ROE	--	45.9%					51.9%					128.2%	71.1%	50.8%	--
Equity ratio	13.9%	24.1%					34.5%					72.7%	84.3%	89.5%	--
Net Debt / Equity ratio	2.3	0.9					0.5					-0.4	-0.6	-0.7	--
Net Debt / EBITDA ratio	9.9	0.8					0.5					-0.3	-0.8	-1.3	--
Dividend payout ratio	0%	0%					0%					0%	0%	0%	--
Net debt	923,719	609,774					576,861					-2,378,262	-8,458,446	-16,677,899	--
Cash and cash equivalents	187,593	167,932					470,707					2,945,830	8,946,014	17,085,467	--
Interest-bearing debt	1,111,312	777,706					1,047,568					567,568	487,568	407,568	--
Shareholders' equity	398,463	702,357					1,274,043					6,274,943	13,331,443	22,505,243	--
Total assets	2,864,941	2,919,679					3,690,071					8,629,916	15,822,966	25,147,058	--
CF from operating activities	195,111	476,416					616,540					3,486,423	6,579,483	8,768,653	--
CF from investing activities	-274,853	-173,011					-221,512					-531,300	-499,300	-549,200	--
CF from financial activities	3,238	-322,679					-96,074					-480,000	-80,000	-80,000	--
Purchase and sales of treasury stock	0	0					0					0	0	0	--
FCF	-79,742	303,405					395,028					2,955,123	6,080,183	8,219,453	--

NYT (N): Earnings model

NT$ in millions, year-end December

	FY25				FY26E				FY27E								
NT$ in millions, year-end Dece	**1Q**	**2Q**	**3Q**	**4Q**	**1Q**	**2QE**	**3QE**	**4QE**	**1QE**	**2QE**	**3QE**	**4QE**	**FY23**	**FY24**	**FY25**	**FY26E**	**FY27E**
Sales	**7,188**	**10,526**	**18,779**	**30,094**	**49,087**	**61,025**	**61,933**	**61,169**	**61,173**	**61,849**	**59,828**	**65,364**	**29,892**	**34,132**	**66,587**	**233,214**	**248,214**
Gross profit	**-1,075**	**-2,165**	**3,465**	**14,759**	**33,316**	**44,333**	**45,125**	**44,517**	**44,836**	**45,626**	**44,055**	**48,222**	**-4,483**	**-421**	**14,984**	**167,292**	**182,739**
Operating (EBIT)	**-3,155**	**-4,501**	**1,119**	**11,781**	**30,111**	**40,871**	**41,643**	**40,991**	**40,994**	**41,530**	**40,000**	**43,893**	**-14,460**	**-10,555**	**5,243**	**153,615**	**166,417**
Net profit	**-1,941**	**-4,102**	**1,563**	**11,093**	**26,058**	**35,084**	**36,573**	**36,188**	**36,361**	**37,074**	**36,068**	**39,207**	**-7,440**	**-5,083**	**6,614**	**133,903**	**148,711**
FD EPS (NT$)	**-0.63**	**-1.32**	**0.50**	**3.58**	**8.41**	**10.17**	**10.60**	**10.49**	**10.54**	**10.75**	**10.45**	**11.36**	**-2.40**	**-1.64**	**2.13**	**39.82**	**43.10**
Key assumption																	
Capacity wpm ('000 waf, 12"eq)	60	60	62	62	62	62	62	62	62	64	66	72	63	60	61	62	66
Bit shipments (4Gb eq.)	184	304	383	433	407	382	367	360	360	379	398	452	834	843	1,304	1,516	1,589
Blended ASP (US$/4Gb)	1.18	1.12	1.64	2.24	3.81	5.04	5.33	5.37	5.37	5.16	4.74	4.57	1.14	1.27	1.65	4.86	4.93
Margins (%)																	
Gross	-15.0	-20.6	18.5	49.0	67.9	72.6	72.9	72.8	73.3	73.8	73.6	73.8	-15.0	-1.2	22.5	71.7	73.6
Operating	-43.9	-42.8	6.0	39.1	61.3	67.0	67.2	67.0	67.0	67.1	66.9	67.2	-48.4	-30.9	7.9	65.9	67.0
EBITDA	11.1	-7.1	25.2	49.0	67.2	71.7	71.9	71.7	76.4	77.2	77.6	77.4	2.9	16.4	29.3	70.8	77.2
Net	-27.0	-39.0	8.3	36.9	53.1	57.5	59.1	59.2	59.4	59.9	60.3	60.0	-24.9	-14.9	9.9	57.4	59.9
Growth (%, Q/Q)																	
Shipment	9	65	26	13	-6	-6	-4	-2	0	5	5	13					
ASP	-2	-5	46	37	70	32	6	1	0	-4	-8	-4					
Sales	9	46	78	60	63	24	1	-1	0	1	-3	9					
Gross profit	55	101	-260	326	126	33	2	-1	1	2	-3	9					
EBIT	n.m.	n.m.	n.m.	953	156	36	2	-2	0	1	-4	10					
Net profit	n.m.	n.m.	n.m.	610	135	35	4	-1	0	2	-3	9					
EPS	n.m.	n.m.	n.m.	610	135	21	4	-1	0	2	-3	9					
Growth (%, Y/Y)																	
Shipment	(27)	28	109	156	121	26	(4)	(17)	(12)	(1)	9	26	(6)	1	55	16	5
ASP	(1)	(15)	19	87	224	350	226	140	41	2	(11)	(15)	(48)	11	30	195	2
Sales	(24)	6	131	358	583	480	230	103	25	1	(3)	7	(48)	14	95	250	6
Gross profit	288	(854)	1,214	(2,225)	(3,200)	(2,148)	1,202	202	35	3	(2)	8	(121)	(91)	(3,663)	1,016	9
EBIT	n.m	n.m	n.m	n.m	n.m	n.m	3,621	248	36	2	(4)	7	n.m.	n.m.	n.m.	2,830	8
Net profit	n.m	n.m	n.m	n.m	n.m	n.m	2,239	226	40	6	(1)	8	n.m.	n.m.	n.m.	1,925	11
EPS	n.m	n.m	n.m	n.m	n.m	n.m	2,001	193	25	6	(1)	8	n.m.	n.m.	n.m.	1,766	8

Source: Company data, J.P. Morgan estimates.

Hanmi Semi (UW): Earnings model

Won in billions, year-end December

KRW in billions, Year-end December	2024				2025				2026E				2023	2024	2025	2026E	2027E
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1QE	2QE	3QE	4QE					
Revenue	**77**	**123**	**209**	**150**	**147**	**180**	**166**	**83**	**194**	**243**	**211**	**219**	**159**	**559**	**577**	**867**	**1,284**
Bonding Equipment	51	86	182	124	117	129	97	19	155	188	161	168	24	443	363	672	1,014
Saw and Multi-Handler	11	16	13	11	8	29	28	28	20	30	29	29	81	51	94	109	142
Others	15	22	14	14	22	22	41	35	19	24	21	22	54	64	120	86	127
D&A	2	2	3	2	3	3	3	4	4	4	4	5	9	9	12	17	20
COGS	38	55	88	62	55	74	80	37	81	102	88	92	80	244	245	364	546
Gross Profit	**39**	**68**	**120**	**87**	**92**	**106**	**87**	**46**	**113**	**141**	**123**	**127**	**79**	**315**	**332**	**503**	**738**
Operating Expense	10	13	21	15	23	20	19	19	19	25	22	22	45	59	81	88	111
EBIT	**29**	**55**	**99**	**72**	**70**	**86**	**68**	**28**	**93**	**116**	**101**	**105**	**35**	**255**	**251**	**415**	**627**
Margin (%)	*37%*	*45%*	*48%*	*48%*	*47%*	*48%*	*41%*	*33%*	*48%*	*48%*	*48%*	*48%*	*22%*	*46%*	*44%*	*48%*	*49%*
Bonder Equipment	23.6	41.6	92.2	65.0	62.0	71.3	54.1	10.6	84.2	102.5	88.7	92.4	10	222	198	368	561
Saw and Multi-Handler	3.0	5.6	4.3	4.0	1.3	8.8	5.6	8.5	4.6	7.6	7.3	7.4	24	17	24	27	36
Others	*2.1*	*8.2*	*2.8*	*3.0*	*6.3*	*6.2*	*8.2*	*8.5*	*4.6*	*5.8*	*5.0*	*5.2*	1	16	29	21	31
Pre Tax Profit	**91**	**(15)**	**51**	**72**	**70**	**85**	**88**	**35**	**101**	**123**	**108**	**112**	**345**	**198**	**278**	**445**	**657**
Tax	21	(3)	13	15	16	20	23	6	26	31	28	29	78	46	64	114	168
Net Profit	**70**	**(12)**	**38**	**56**	**55**	**65**	**66**	**29**	**75**	**92**	**81**	**84**	**267**	**153**	**214**	**331**	**489**
EPS (W)	**721**	**(123)**	**401**	**595**	**577**	**682**	**693**	**309**	**791**	**968**	**850**	**882**	**2,745**	**1,594**	**2,261**	**3,491**	**5,154**
Margins (%)																	
Gross Margin	50%	55%	58%	58%	63%	59%	52%	56%	58%	58%	58%	58%	50%	56%	58%	58%	57%
Operating Margin	37%	45%	48%	48%	47%	48%	41%	33%	48%	48%	48%	48%	22%	46%	44%	48%	49%
EBITDA Margin	40%	47%	49%	50%	49%	49%	43%	38%	50%	50%	50%	50%	27%	47%	46%	50%	50%
Net Margin	90%	-10%	18%	38%	37%	36%	40%	35%	39%	38%	38%	38%	168%	27%	37%	38%	38%
Sequential Growth (%)																	
Revenue	48%	60%	69%	-28%	-1%	22%	-8%	-50%	133%	25%	-13%	4%	-51%	251%	3%	50%	48%
Gross Profit	28%	75%	77%	-28%	6%	15%	-19%	-46%	143%	25%	-13%	3%	-57%	296%	6%	52%	47%
EBIT	56%	93%	79%	-28%	-3%	24%	-21%	-59%	238%	24%	-13%	4%	-69%	639%	-2%	65%	51%
EPS	-18%	-117%	-427%	48%	-3%	18%	2%	-55%	156%	22%	-12%	4%	141%	-42%	42%	54%	48%

Source: Company data, J.P. Morgan estimates.

SEMCO (OW): Earnings model

Won in billions, year-end December

	2025				2026E				2027E				2023	2024	2025	2026E	2027E	2028E
	1Q	2Q	3Q	4Q	1Q	2QE	3QE	4QE	1QE	2QE	3QE	4QE						
Revenue	**2,739**	**2,785**	**2,889**	**2,902**	**3,209**	**3,297**	**3,588**	**3,669**	**4,315**	**4,509**	**4,843**	**4,713**	**8,909**	**10,294**	**11,314**	**13,763**	**18,380**	**22,121**
Substrate	499	565	593	645	725	769	814	899	980	1,059	1,103	1,182	1,717	2,035	2,302	3,207	4,324	6,015
MLCC	1,216	1,281	1,381	1,320	1,409	1,558	1,773	1,902	2,207	2,495	2,754	2,734	3,903	4,462	5,198	6,641	10,190	12,328
Module	1,023	939	915	937	1,076	970	1,001	868	1,128	954	986	797	3,289	3,797	3,814	3,915	3,865	3,778
Others	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Dep. & Amor. Expenses	(204)	(212)	(220)	(227)	(223)	(258)	(271)	(282)	(300)	(321)	(345)	(369)	(765)	(764)	(862)	(1,034)	(1,335)	(1,756)
COGS	(2,230)	(2,219)	(2,289)	(2,300)	(2,549)	(2,503)	(2,650)	(2,653)	(3,072)	(3,063)	(3,201)	(3,031)	(7,189)	(8,335)	(9,037)	(10,355)	(12,367)	(14,299)
Gross Profit	**509**	**565**	**601**	**603**	**660**	**794**	**937**	**1,016**	**1,243**	**1,446**	**1,642**	**1,682**	**1,721**	**1,959**	**2,277**	**3,408**	**6,013**	**7,822**
Operating Expense	(308)	(352)	(340)	(363)	(380)	(404)	(430)	(440)	(522)	(545)	(583)	(568)	(1,081)	(1,224)	(1,364)	(1,654)	(2,218)	(2,669)
EBIT	**201**	**213**	**260**	**239**	**281**	**390**	**507**	**576**	**721**	**901**	**1,059**	**1,114**	**639**	**735**	**913**	**1,753**	**3,795**	**5,154**
Substrate	30	35	42	44	58	111	139	189	207	253	285	333	181	176	150	497	1,078	1,541
MLCC	125	152	193	157	176	258	346	353	466	627	753	752	370	431	627	1,133	2,598	3,494
Module	46	25	26	38	49	21	22	34	48	22	21	28	89	129	135	126	119	119
Others	(0)	1	(0)	1	(2)	0	0	0	0	0	0	0	(0)	(1)	1	(2)	0	0
Net Interest Income	(4)	(5)	(1)	7	7	10	8	7	8	2	(1)	(4)	(15)	(1)	(4)	31	5	(7)
Net Other Income	(23)	(36)	23	23	29	21	30	33	33	39	41	44	(82)	63	(14)	113	158	190
Pre Tax Profit	174	171	282	269	316	421	545	615	762	943	1,099	1,154	543	797	896	1,898	3,957	5,337
Tax	(32)	(34)	(57)	(41)	(64)	(85)	(110)	(124)	(154)	(190)	(222)	(233)	(85)	(132)	(164)	(383)	(798)	(1,077)
Net Profit	**138**	**124**	**220**	**220**	**249**	**321**	**422**	**476**	**590**	**725**	**851**	**894**	**425**	**676**	**702**	**1,468**	**3,059**	**4,127**
EPS (W)	**1,775**	**1,604**	**2,834**	**2,835**	**3,210**	**4,138**	**5,439**	**6,135**	**7,603**	**9,337**	**10,963**	**11,518**	**5,473**	**8,707**	**9,047**	**18,921**	**39,420**	**53,189**
Margins (%)																		
Gross Margin	19	20	21	21	21	24	26	28	29	32	34	36	19	19	20	25	33	35
Operating Margin	7	8	9	8	9	12	14	16	17	20	22	24	7	7	8	13	21	23
EBITDA Margin	15	15	17	16	16	20	22	23	24	27	29	31	16	15	16	20	28	31
Net Margin	5	4	8	8	8	10	12	13	14	16	18	19	5	7	[illegible]	[illegible]	[illegible]	[illegible]
Divisional Margin (%)																		
Substrate	6	6	7	7	8	14	17	21	21	24	26	28	11	9	[illegible]	[illegible]	[illegible]	[illegible]
MLCC	10	12	14	12	13	17	19	19	21	25	27	28	9	10	[illegible]	[illegible]	[illegible]	[illegible]
Module	5	3	3	4	5	2	2	4	4	2	2	4	3	3	[illegible]	[illegible]	[illegible]	[illegible]
Sequential Growth (%)																		
Revenue	10	2	4	0	11	3	9	2	18	4	7	(3)	(5)	16	[illegible]	[illegible]	[illegible]	[illegible]
Gross Profit	16	11	6	0	10	20	18	8	22	16	14	2	(24)	14	[illegible]	[illegible]	[illegible]	[illegible]
EBIT	74	6	22	(8)	17	39	30	14	25	25	18	5	(46)	15	[illegible]	[illegible]	[illegible]	[illegible]
Net Profit	(34)	(10)	77	0	13	29	31	13	24	23	17	5	(58)	59	[illegible]	[illegible]	[illegible]	[illegible]
EPS	(34)	(10)	77	0	13	29	31	13	24	23	17	5	(58)	59	[illegible]	[illegible]	[illegible]	[illegible]

Source: Company data, J.P. Morgan estimates.

LG Innotek (OW): Earnings model

Won in billions, year-end December

	2025				2026E				2027E				2024	2025	2026E	2027E	2028E
	1Q	2Q	3Q	4Q	1Q	2QE	3QE	4QE	1QE	2QE	3QE	4QE					
Revenue	**4,983**	**3,935**	**5,369**	**7,610**	**5,535**	**4,971**	**6,220**	**8,242**	**5,907**	**5,771**	**6,174**	**8,227**	**21,201**	**21,897**	**24,968**	**26,079**	**26,793**
Optic Solutions	4,138	3,053	4,481	6,646	4,611	3,997	5,202	7,165	4,868	4,665	5,022	7,019	17,800	18,319	20,975	21,575	21,805
Package Solutions	377	416	438	489	437	475	513	560	522	578	631	678	1,460	1,720	1,984	2,409	2,836
Mobility Solutions	468	466	451	474	487	500	505	518	518	527	521	530	1,941	1,858	2,009	2,095	2,153
Adjustment	0	(0)	(0)	(0)	0	0	0	0	0	0	0	0	(0)	0	0	0	0
Dep. & Amor. Expenses	(295)	(260)	(270)	(275)	(240)	(238)	(237)	(235)	(233)	(231)	(228)	(225)	(1,280)	(1,101)	(950)	(917)	(864)
COGS	(4,611)	(3,685)	(4,896)	(6,955)	(4,950)	(4,551)	(5,588)	(7,326)	(5,304)	(5,191)	(5,542)	(7,306)	(19,457)	(20,147)	(22,415)	(23,341)	(23,904)
Gross Profit	**372**	**250**	**473**	**655**	**585**	**420**	**632**	**916**	**604**	**580**	**632**	**921**	**1,744**	**1,750**	**2,553**	**2,737**	**2,889**
Operating Expense	(246)	(238)	(270)	(330)	(290)	(254)	(317)	(421)	(302)	(295)	(315)	(420)	(1,038)	(1,085)	(1,282)	(1,332)	(1,368)
EBIT	**125**	**11**	**204**	**325**	**295**	**166**	**314**	**495**	**302**	**285**	**317**	**501**	**706**	**665**	**1,271**	**1,405**	**1,521**
Optic Solutions	69	(38)	153	277	234	86	228	404	228	188	204	373	592	462	952	994	968
Package Solutions	35	28	33	49	43	59	65	78	54	75	91	114	83	144	245	334	475
Mobility Solutions	21	22	18	(2)	19	21	21	13	19	22	21	14	31	59	74	76	78
Net Interest Income	(12)	(10)	(10)	(14)	(11)	(9)	(6)	(8)	(8)	(3)	(1)	(0)	(75)	(46)	(34)	(12)	15
Net Other Income	(9)	(10)	(36)	(155)	(2)	(15)	(19)	(25)	(18)	(17)	(19)	(25)	(16)	(210)	(60)	(78)	(80)
Pre Tax Profit	104	(8)	157	156	283	142	289	463	276	266	297	476	616	409	1,177	1,314	1,456
Tax	(18)	(1)	(29)	(20)	(54)	(27)	(55)	(88)	(47)	(45)	(51)	(81)	(140)	(67)	(224)	(223)	(247)
Net Profit	**86**	**(9)**	**128**	**136**	**229**	**115**	**234**	**375**	**229**	**220**	**247**	**395**	**476**	**341**	**954**	**1,091**	**1,208**
EPS (W)	**3,617**	**(367)**	**5,425**	**5,744**	**9,680**	**4,871**	**9,907**	**15,842**	**9,672**	**9,312**	**10,426**	**16,683**	**20,116**	**14,419**	**40,301**	**46,094**	**51,048**
Margins (%)																	
Gross Margin	*7*	*6*	*9*	*9*	*11*	*8*	*10*	*11*	*10*	*10*	*10*	*11*	*8*	*8*	*10*	*10*	*11*
Operating Margin	3	0	4	4	5	3	5	6	5	5	5	6	3	3	5	5	6
Optic Solutions	*2*	*(1)*	*3*	*4*	*5*	*2*	*4*	*6*	*5*	*4*	*4*	*5*	*3*	*3*	*5*	*5*	*4*
Package Solutions	*9*	*7*	*7*	*10*	*10*	*12*	*13*	*14*	*10*	*13*	*14*	*17*	*6*	*8*	*12*	*14*	*17*
Mobility Solutions	*5*	*5*	*4*	*(0)*	*4*	*4*	*4*	*3*	*4*	*4*	*4*	*3*	*2*	*3*	*4*	*4*	*4*
EBITDA Margin	*8*	*7*	*9*	*8*	*10*	*8*	*9*	*9*	*9*	*9*	*9*	*9*	*9*	*8*	*9*	*9*	*9*
Net Margin	*2*	*(0)*	*2*	*2*	*4*	*2*	*4*	*5*	*4*	*4*	*4*	*5*	*2*	*2*	*4*	*4*	*5*
Sequential Growth (%)																	
Revenue	(25)	(21)	36	42	(27)	(10)	25	33	(28)	(2)	7	33	3	3	14	4	3
EBIT	(50)	(91)	1,689	59	(9)	(44)	89	58	(39)	(5)	11	58	(15)	(6)	91	11	8
Net Profit	(36)	n/a	n/a	6	69	(50)	103	60	(39)	(4)	12	60	(16)	(28)	179	14	11
EPS	(36)	n/a	n/a	6	69	(50)	103	60	(39)	(4)	12	60	(16)	(28)	179	14	11

Source: Company data, J.P. Morgan estimates.

ISU Petasys (OW): Earnings model

Won in billions, year-end December

KRW in billions, Year-end December	2024				2025				2026E				2023	2024	2025	2026E	2027E	2028E
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2QE	3QE	4QE						
Revenue	**200**	**205**	**206**	**226**	**252**	**241**	**296**	**298**	**340**	**349**	**416**	**474**	**675**	**837**	**1,088**	**1,579**	**2,364**	**2,868**
IsuPetasys (standalone)	168	174	182	195	210	210	258	252	276	284	341	392	579	719	930	1,293	2,055	2,546
IsuPetasys Hunan (CHN)	37	37	34	45	54	50	58	66	79	86	95	103	122	152	228	363	402	421
IsuPetasys Corp. (US)	10	9	5	5	5	5	6	6	7	5	5	6	36	28	23	23	20	20
D&A	6	6	6	7	7	7	8	8	9	10	13	15	15	24	30	48	59	82
COGS	162	162	170	186	186	185	219	215	256	249	286	323	559	680	806	1,114	1,619	1,952
Gross Profit	**38**	**42**	**37**	**40**	**66**	**56**	**77**	**83**	**84**	**100**	**129**	**151**	**116**	**157**	**282**	**465**	**745**	**916**
Operating Expense	15	15	11	14	19	14	18	27	17	28	33	37	54	55	78	115	178	205
EBIT	**23**	**28**	**26**	**25**	**48**	**42**	**58**	**57**	**67**	**72**	**97**	**114**	**62**	**102**	**205**	**350**	**567**	**711**
Margin (%)	*12%*	*13%*	*13%*	*11%*	*19%*	*17%*	*20%*	*19%*	*20%*	*21%*	*23%*	*24%*	*9%*	*12%*	*19%*	*22%*	*24%*	*25%*
IsuPetasys (standalone)	16.5	23.7	20.2	18.1	33.4	31.8	44.1	42.8	45.9	50.2	71.7	87.7	50	79	152	256	465	603
IsuPetasys (standalone) Margin (%)	*10%*	*14%*	*11%*	*9%*	*16%*	*15%*	*17%*	*17%*	*17%*	*18%*	*21%*	*22%*	*9%*	*11%*	*16%*	*20%*	*23%*	*24%*
IsuPetasys Hunan (CHN)	*5.8*	*5.1*	*3.4*	*4.1*	*11.3*	*7.0*	*10.5*	*11.0*	*17.1*	*18.5*	*21.4*	*23.1*	15	18	40	80	89	95
IsuPetasys Hunan Margin (%)	*16%*	*14%*	*10%*	*9%*	*21%*	*14%*	*18%*	*17%*	*22%*	*22%*	*23%*	*23%*	12%	12%	17%	22%	22%	22%
IsuPetasys Corp. (US)	*0.6*	*(1.0)*	*2.2*	*2.8*	*2.9*	*3.2*	*3.8*	*4.0*	*4.2*	*3.3*	*3.5*	*3.7*	(4)	5	14	15	13	13
Pre Tax Profit	**21**	**27**	**19**	**25**	**47**	**41**	**60**	**54**	**64**	**74**	**99**	**117**	**55**	**92**	**202**	**355**	**579**	**724**
Tax	(4)	(5)	(4)	(5)	(8)	(9)	(13)	(11)	(14)	(15)	(20)	(23)	(7)	(18)	(41)	(71)	(114)	(143)
Net Profit	**18**	**22**	**15**	**20**	**38**	**31**	**47**	**44**	**50**	**60**	**79**	**94**	**48**	**74**	**160**	**283**	**464**	**581**
EPS (W)	**277**	**348**	**230**	**315**	**606**	**427**	**643**	**594**	**687**	**813**	**1,082**	**1,278**	**755**	**1,171**	**2,265**	**3,860**	**6,326**	**7,915**
Margins (%)																		
Gross Margin	19%	21%	18%	18%	26%	23%	26%	28%	25%	29%	31%	32%	17%	19%	26%	29%	32%	32%
Operating Margin	12%	13%	13%	11%	19%	17%	20%	19%	20%	21%	23%	24%	9%	12%	19%	22%	24%	25%
EBITDA Margin	14%	16%	15%	14%	22%	20%	22%	22%	22%	24%	26%	27%	11%	15%	22%	25%	27%	28%
Net Margin	9%	11%	7%	9%	15%	13%	16%	15%	15%	17%	19%	20%	7%	9%	15%	18%	20%	20%
Sequential Growth (%)																		
Revenue	15%	3%	1%	10%	12%	-4%	23%	1%	14%	3%	19%	14%	5%	24%	30%	45%	50%	21%
Gross Profit	37%	11%	-14%	9%	67%	-16%	37%	8%	1%	18%	29%	17%	-29%	34%	80%	65%	60%	23%
EBIT	117%	20%	-6%	-2%	87%	-12%	39%	-3%	19%	7%	34%	18%	-47%	64%	101%	71%	62%	25%
EPS	114%	26%	-34%	37%	93%	-29%	51%	-8%	16%	18%	33%	18%	-52%	55%	93%	70%	64%	25%

Source: Company data, J.P. Morgan estimates.

Leeno (N): Earnings model

Won in billions, year-end December

KRW in billions, Year-end December	2024				2025				2026E				2024	2025	2026E	2027E
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1QE	2QE	3QE	4QE				
Revenue	**55**	**71**	**69**	**83**	**78**	**113**	**97**	**85**	**97**	**121**	**111**	**99**	**278**	**373**	**428**	**512**
Leeno Pin	19	18	19	20	20	22	24	18	25	23	27	21	75	84	97	116
IC Test Socket	28	46	43	55	48	80	63	58	61	86	74	69	172	249	290	350
Others (Medical Equipment)	8	7	7	9	10	11	9	9	11	12	10	9	31	39	42	46
D&A	3	3	3	3	3	3	3	3	5	6	6	6	13	13	23	24
COGS	29	34	35	42	40	54	44	41	46	57	52	47	140	178	202	239
Gross Profit	**26**	**37**	**34**	**41**	**39**	**59**	**53**	**44**	**52**	**64**	**59**	**52**	**138**	**194**	**227**	**273**
Operating Expense	3	4	3	4	4	5	4	4	4	5	5	4	14	17	18	21
EBIT	**23**	**33**	**31**	**37**	**35**	**53**	**48**	**40**	**47**	**59**	**54**	**49**	**124**	**177**	**209**	**252**
Margin (%)	*42.5*	*46.8*	*44.5*	*44.4*	*44.6*	*47.5*	*49.8*	*47.6*	*48.5*	*48.5*	*48.9*	*49.0*	*44.6*	*47.5*	*48.7*	*49.2*
Leeno Pin	8	8	8	8	8	9	11	8	12	11	13	9	32	38	45	53
Margin (%)	*43.2*	*43.3*	*41.7*	*40.8*	*41.8*	*42.4*	*47.3*	*47.1*	*46.7*	*46.4*	*47.7*	*45.3*	*42.2*	*44.7*	*46.6*	*46.1*
IC Test Socket	12	23	20	26	23	40	33	29	31	44	38	35	81	125	148	181
Margin (%)	*43.3*	*49.9*	*47.1*	*46.9*	*47.0*	*50.4*	*52.8*	*49.3*	*51.0*	*50.7*	*51.0*	*51.6*	*47.2*	*50.1*	*51.0*	*51.7*
Others (Medical Equipment)	*2.9*	*2.6*	*2.6*	*3.3*	*3.9*	*3.9*	*3.4*	*3.3*	*4.2*	*4.3*	*3.8*	*3.6*	11	15	16	17
Margin (%)	*37.5*	*35.7*	*35.9*	*37.2*	*38.3*	*36.2*	*36.4*	*37.7*	*38.8*	*36.7*	*36.9*	*38.2*	37	37	38	38
Pre Tax Profit	**27**	**39**	**32**	**49**	**38**	**53**	**54**	**50**	**51**	**66**	**59**	**57**	**147**	**196**	**233**	**287**
Tax	6	9	7	11	9	12	12	11	11	14	12	12	33	44	49	61
Net Profit	**21**	**30**	**25**	**38**	**29**	**41**	**42**	**40**	**40**	**52**	**46**	**45**	**113**	**152**	**184**	**227**
EPS (W)	**270**	**392**	**322**	**503**	**385**	**539**	**550**	**520**	**524**	**686**	**608**	**593**	**1,486**	**1,994**	**2,412**	**2,976**
Margins (%)																
Gross Margin	48	52	49	49	49	52	54	52	53	53	53	53	50	52	53	53
Operating Margin	42	47	44	44	45	47	50	48	49	49	49	49	45	48	49	49
EBITDA Margin	49	52	49	48	49	50	53	52	54	53	54	55	49	51	54	54
Net Margin	38	42	36	46	37	37	43	47	41	43	42	46	41	41	43	44
Sequential Growth (%)																
Revenue	-5	29	-3	21	-6	44	-14	-12	15	24	-8	-11	9	34	15	19
Gross Profit	-20	40	-8	21	-6	52	-10	-16	17	23	-7	-11	8	41	17	20
EBIT	-23	43	-8	21	-6	53	-10	-16	17	24	-7	-11	9	43	18	21
Net Profit	-26	45	-18	56	-23	40	2	-6	1	31	-11	-2	2	34	21	23
EPS	-26	45	-18	56	-23	40	2	-6	1	31	-11	-2	2	34	21	23

LGD (N): Earnings model

Won in billions, year-end December

	2025				2026E				2027E							
	1Q	2Q	3Q	4Q	1Q	2QE	3QE	4QE	1QE	2QE	3QE	4QE	2024	2025	2026E	2027E
Revenue	**6,065**	**5,587**	**6,957**	**7,201**	**5,534**	**5,263**	**6,681**	**6,473**	**5,102**	**5,100**	**6,563**	**6,396**	**26,615**	**25,810**	**23,951**	**23,160**
TV	1,334	1,011	1,085	1,195	863	782	867	893	739	732	809	833	5,958	4,626	3,405	3,281
Monitor	849	894	1,044	1,044	973	973	966	926	805	884	942	924	3,513	3,831	3,838	3,671
NBPC/Tablet	1,274	1,536	1,496	1,512	1,041	1,176	1,370	1,291	978	1,120	1,350	1,275	5,998	5,818	4,878	4,815
Mobile/Others	2,608	2,145	3,332	3,449	2,623	2,333	3,477	3,363	2,579	2,363	3,462	3,364	11,147	11,535	11,797	11,753
LCD	2,713	2,460	2,431	2,576	2,107	1,980	2,075	2,035	1,689	1,842	2,041	2,023	11,984	10,180	8,196	7,778
OLED	3,352	3,127	4,526	4,625	3,427	3,284	4,606	4,439	3,413	3,257	4,522	4,373	14,631	15,631	15,755	15,741
Depreciation	-1,198	-1,170	-993	-994	-994	-954	-944	-944	-916	-922	-921	-935	-5,126	-4,354	-3,836	-3,693
COGS	5,322	5,079	5,817	6,215	4,769	4,654	5,423	5,143	4,182	4,162	5,283	5,076	24,040	22,434	19,990	18,703
Gross Profit	**743**	**508**	**1,140**	**986**	**765**	**609**	**1,257**	**1,330**	**920**	**938**	**1,280**	**1,319**	**2,575**	**3,376**	**3,962**	**4,457**
Operating Expense	709	624	709	817	618	699	718	720	696	715	719	720	-3,136	-2,859	-2,755	-2,850
Operating profit	**33**	**-116**	**431**	**169**	**147**	**-90**	**540**	**610**	**224**	**222**	**561**	**600**	**-561**	**517**	**1,207**	**1,607**
OP margin, %	*1*	*-2*	*6*	*2*	*3*	*-2*	*8*	*9*	*4*	*4*	*9*	*9*	*-2.1*	*2.0*	*5.0*	*6.9*
Pre Tax Profit	-148	992	30	-372	-522	-261	371	444	68	74	415	457	-2,853	-2,409	-1,610	-2,192
Tax	89	101	29	-20	54	-26	37	44	7	7	41	46	-669	-453	-91	218
Net Profit	**-263**	**866**	**-21**	**-356**	**-576**	**-235**	**334**	**399**	**61**	**66**	**373**	**412**	**-2,563**	**226**	**-78**	**912**
EPS (W)	**-525**	**1,732**	**-41**	**-712**	**-1,152**	**-470**	**667**	**798**	**122**	**133**	**747**	**823**	**-5,670**	**453**	**-156**	**1,825**
Glass output (sqm: '000)	**5,400**	**4,000**	**3,925**	**4,040**	**3,200**	**3,567**	**3,964**	**3,911**	**3,270**	**3,646**	**4,065**	**4,037**	**24,780**	**17,365**	**14,642**	**14,713**
% change	*-19%*	*-26%*	*-2%*	*3%*	*-21%*	*11%*	*11%*	*-1%*	*-16%*	*11%*	*11%*	*-1%*	*29%*	*-30%*	*-16%*	*0%*
LCD TV	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	53.6%	n.a	n.a	n.a
Desktop monitor	5%	-3%	-15%	12%	-6%	1%	-1%	-2%	-8%	7%	4%	1%	9.1%	-5.9%	-6.7%	-2.1%
NBPC panel	-24%	27%	23%	5%	-28%	2%	12%	2%	-20%	8%	14%	2%	0.1%	10.1%	-5.4%	0.3%
Mobile/Others	-32%	-3%	3%	-37%	-17%	38%	28%	-23%	-21%	40%	25%	-23%	37.8%	-34.5%	-19.9%	6.8%
Capacity breakdown % (input area basis)																
5G and below	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
6G	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
7G+	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
ASP/m^2 (US$)	**774**	**998**	**1,278**	**1,230**	**1,172**	**1,004**	**1,179**	**1,157**	**1,114**	**999**	**1,153**	**1,132**	**788**	**1,045**	**1,127**	**1,101**
% change	*(8)*	*29*	*28*	*(4)*	*(5)*	*(14)*	*17*	*(2)*	*(4)*	*(10)*	*15*	*(2)*	*(8)*	*33*	*8*	*(2)*
COGS/m^2 (US$)	**679**	**907**	**1,069**	**1,062**	**1,016**	**888**	**957**	**919**	**913**	**815**	**928**	**898**	**711**	**909**	**942**	**889**
% change	*-9*	*34*	*18*	*-1*	*-4*	*-13*	*8*	*-4*	*-1*	*-11*	*14*	*-3*	*(15)*	*28*	*4*	*(6)*
Margins (%)																
Operating Margin	1	-2	6	2	3	-2	8	9	4	4	9	9	-2	2	5	7
EBITDA Margin	20	19	20	16	21	16	22	24	22	22	23	24	17	19	21	23
Net Margin	-4	15	0	-5	-10	-4	5	6	1	1	6	6	-10	1	0	4
Sequential Growth (%)																
Revenue	-23	-8	25	4	-23	-5	27	-3	-21	0	29	-3	25	-3	-7	-3
Gross Profit	-18	-32	125	-14	-22	-20	107	6	-31	2	37	3	646	31	17	13
EBIT	-60	na	na	-61	-13	na	na	13	-63	-1	152	7	na	na	133	33
Net Profit	na	na	na	na	na	na	na	20	-85	8	464	10	na	na	na	na

LGE (N): Earnings model

Won in billions, year-end December

	2025				2026E				2027E								
	1Q	2Q	3Q	4Q	1Q	2QE	3QE	4QE	1QE	2QE	3QE	4QE	2023	2024	2025	2026E	2027E
Revenue	**22,740**	**20,735**	**21,874**	**23,852**	**23,727**	**22,594**	**22,956**	**24,193**	**24,042**	**23,643**	**23,472**	**24,731**	**82,263**	**87,728**	**89,201**	**93,470**	**95,889**
Home Appliance Solution	6,700	6,597	6,584	6,269	6,943	6,862	6,826	6,366	6,997	7,040	7,079	6,534		24,806	26,150	26,997	27,650
Eco Solution	3,054	2,644	2,167	1,457	2,822	2,703	2,264	1,477	2,828	2,813	2,360	1,551		8,821	9,323	9,267	9,551
Media Entertainment Solution	4,950	4,393	4,653	5,430	5,169	4,905	4,834	5,042	5,011	4,738	4,895	5,193		20,889	19,426	19,951	19,838
Business Solutions	1,526	1,435	1,383	1,286	1,618	1,564	1,383	1,221	1,569	1,486	1,424	1,295	5,412	5,687	5,630	5,786	5,774
Vehicle components Solutions	2,843	2,849	2,647	2,796	3,064	3,069	2,818	2,978	3,229	3,233	2,969	3,138	10,148	10,621	11,135	11,929	12,568
LG Innotek	4,830	3,796	5,241	7,483	5,424	4,756	5,912	8,031	5,677	5,521	5,868	8,015	19,702	20,464	21,350	24,123	25,082
Others	363	455	583	416	304	300	300	300	300	300	300	300	2,629	2,128	1,817	1,204	1,200
Depreciation	858	892	897	955	868	869	871	872	873	873	872	870	3,218	3,535	3,602	3,480	3,488
Operating costs	21,481	20,096	21,185	23,961	22,054	21,520	21,867	23,804	22,335	22,396	22,302	24,277	78,609	84,309	86,722	89,245	91,310
% of Revenue (%)	*94.5*	*96.9*	*96.9*	*100.5*	*92.9*	*95.2*	*95.3*	*98.4*	*92.9*	*94.7*	*95.0*	*98.2*	*95.6*	*96.1*	*97.2*	*95.5*	*95.2*
EBIT	**1,259**	**639**	**689**	**-109**	**1,674**	**1,074**	**1,088**	**390**	**1,707**	**1,247**	**1,170**	**455**	**3,653**	**3,420**	**2,478**	**4,225**	**4,579**
% of Revenue (%)	*5.5*	*3.1*	*3.1*	*-0.5*	*7.1*	*4.8*	*4.7*	*1.6*	*7.1*	*5.3*	*5.0*	*1.8*	*4.4*	*3.9*	*2.8*	*4.5*	*4.8*
Home Appliance Solution	*643.2*	*438.3*	*364.7*	*-162.2*	*569.7*	*425.4*	*375.4*	*-95.5*	*581.1*	*443.5*	*396.4*	*-91.5*		1,301	1,284	1,275	1,330
Margin (%)	*9.6*	*6.6*	*5.5*	*-2.6*	*8.2*	*6.2*	*5.5*	*-1.5*	*8.3*	*6.3*	*5.6*	*-1.4*		*5.2*	*4.9*	*4.7*	*4.8*
Eco Solution	*406.7*	*250.5*	*132.9*	*-142.8*	*248.5*	*229.8*	*135.9*	*-73.9*	*282.8*	*253.1*	*141.6*	*-62.0*		675	647	540	616
Margin (%)	*13.3*	*9.5*	*6.1*	*-9.8*	*8.8*	*8.5*	*6.0*	*-5.0*	*10.0*	*9.0*	*6.0*	*-4.0*		*7.7*	*6.9*	*5.8*	*6.4*
Media Entertainment Solution	*4.9*	*-191.7*	*-302.6*	*-261.5*	*371.6*	*2.3*	*-37.8*	*-140.0*	*340.4*	*1.4*	*-3.7*	*-112.1*		268	-751	196	226
Margin (%)	*0.1*	*-4.4*	*-6.5*	*-4.8*	*7.2*	*0.0*	*-0.8*	*-2.8*	*6.8*	*0.0*	*-0.1*	*-2.2*		*1.3*	*-3.9*	*1.0*	*1.1*
Vehicle components Solutions	125	126	150	158	212	246	225	179	226	259	243	195	244	116	559	861	923
Margin (%)	*4.4*	*4.4*	*5.7*	*5.7*	*6.9*	*8.0*	*8.0*	*6.0*	*7.0*	*8.0*	*8.2*	*6.2*	*2.4*	*1.1*	*5.0*	*7.2*	*7.3*
LG Innotek	125	16	211	334	298	166	314	495	302	285	317	501	803	711	686	1,273	1,405
Others	-46	0	134	-35	-26	5	75	25	-25	5	75	25	278	348	53	79	80
Pre Tax Profit	1,118	762	567	-611	1,401	854	1,069	371	1,558	1,135	1,180	465	2,015	1,336	1,836	3,695	4,337
Tax expense (credit)	241	151	103	113	396	226	283	98	413	301	313	123	757	463	608	1,004	1,149
Net Profit	**799**	**605**	**385**	**-837**	**816**	**685**	**647**	**-18**	**956**	**951**	**721**	**36**	**700**	**344**	**952**	**2,130**	**2,663**
EPS (W)	**4,883**	**3,695**	**2,353**	**-5,113**	**4,984**	**4,187**	**3,953**	**-110**	**5,839**	**5,808**	**4,407**	**221**	**7,031**	**3,614**	**7,458**	**16,446**	**19,479**
EPS (W) inc. pref. Shares	**4,419**	**3,344**	**2,129**	**-4,627**	**4,511**	**3,789**	**3,577**	**-100**	**5,284**	**5,256**	**3,988**	**200**	**6,363**	**3,270**	**6,749**	**14,883**	**17,628**
Margins (%)																	
Operating Margin	5.5	3.1	3.1	-0.5	7.1	4.8	4.7	1.6	7.1	5.3	5.0	1.8	4.4	3.9	2.8	4.5	4.8
EBITDA Margin	9.3	7.4	7.2	3.5	10.7	8.6	8.5	5.2	10.7	9.0	8.7	5.4	8.4	7.9	6.8	8.2	8.4
Net Margin	3.5	2.9	1.8	-3.5	3.4	3.0	2.8	-0.1	4.0	4.0	3.1	0.1	0.9	0.4	1.1	2.3	2.8
Sequential Growth (%)																	
Revenue	0	-9	5	9	-1	-5	2	5	-1	-2	-1	5	-1	7	2	5	3
EBIT	830	-49	8	-116	na	-36	1	-64	338	-27	-6	-61	3	-6	-28	70	8
Net Profit	na	-24	-36	na	na	-16	-6	na	na	-1	-24	-95	-41	-51	176	124	25
EPS	na	-24	-36	na	na	-16	-6	na	na	-1	-24	-95	-38	-49	106	121	18

Source: Company data, J.P. Morgan estimates.

Samsung SDS (N): Earnings model

Won in billions, year-end December

	2025				2026E				2027E								
	1Q	2Q	3Q	4Q	1Q	2QE	3QE	4QE	1QE	2QE	3QE	4QE	2024	2025	2026E	2027E	2028E
Revenue	**3,490**	**3,512**	**3,391**	**3,537**	**3,353**	**3,504**	**3,598**	**3,868**	**3,668**	**3,706**	**3,809**	**4,052**	**13,828**	**13,930**	**14,323**	**15,236**	**16,105**
IT Service	1,600	1,678	1,596	1,669	1,611	1,707	1,703	1,827	1,742	1,837	1,847	1,947	6,402	6,544	6,847	7,372	8,059
Solution	236	318	241	246	243	290	260	280	240	260	265	285	1,079	1,041	1,073	1,050	1,040
Cloud	653	665	675	688	691	743	777	826	845	923	936	963	2,324	2,680	3,037	3,667	4,417
ITO	712	695	680	735	677	674	666	720	657	654	646	699	2,999	2,822	2,738	2,656	2,602
Logistics	1,889	1,834	1,796	1,868	1,742	1,797	1,895	2,042	1,927	1,869	1,962	2,106	7,427	7,386	7,476	7,863	8,046
Depreciation & Amortization	155	160	151	164	165	153	156	164	170	175	179	185	607	630	637	709	842
COGS	2,789	2,829	2,743	2,859	2,794	2,826	2,902	3,124	2,948	2,975	3,059	3,259	11,209	11,220	11,646	12,241	12,767
Gross Profit	**546**	**523**	**497**	**514**	**394**	**526**	**540**	**580**	**550**	**556**	**571**	**608**	**2,012**	**2,080**	**2,040**	**2,285**	**2,496**
Operating Expense	277	293	265	288	316	292	291	297	308	297	297	298	1,101	1,123	1,195	1,199	1,301
Operating profit	**269**	**230**	**232**	**226**	**78**	**233**	**249**	**284**	**242**	**259**	**274**	**310**	**911**	**957**	**844**	**1,086**	**1,195**
OP margin, %	*8%*	*7%*	*7%*	*6%*	*2%*	*7%*	*7%*	*7%*	*7%*	*7%*	*7%*	*8%*	*6.6%*	*6.9%*	*5.9%*	*7.1%*	*7.4%*
IT service OP	226	204	197	200	63	204	215	247	208	227	239	270	773	827	729	944	1,050
OP margin, %	*14%*	*12%*	*12%*	*12%*	*4%*	*12%*	*13%*	*14%*	*12%*	*12%*	*13%*	*14%*	*12.1%*	*12.6%*	*10.6%*	*12.8%*	*13.0%*
Logistics OP	43	27	35	26	15	29	34	37	35	32	35	40	139	130	115	142	145
OP margin, %	*2%*	*1%*	*2%*	*1%*	*1%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*1.9%*	*1.8%*	*1.5%*	*1.8%*	*1.8%*
Net Interest Income	33	33	34	35	36	37	37	37	38	37	37	38	132	135	147	150	153
Net Other Income	0	(26)	11	(2)	16	8	8	8	8	8	8	8	59	-16	39	30	30
Pre Tax Profit	302	237	278	259	130	277	293	329	288	303	319	356	1,103	1,076	1,029	1,266	1,378
Tax	84	61	77	72	38	76	81	90	79	83	88	98	313	293	286	348	379
Extraordinaries	6	5	6	6	(1)	6	6	7	6	7	7	8	33	23	19	27	30
Net Profit	**211**	**171**	**195**	**182**	**92**	**195**	**206**	**231**	**202**	**213**	**225**	**250**	**757**	**760**	**725**	**890**	**970**
EPS (W)	**2,733**	**2,205**	**2,522**	**2,356**	**1,194**	**2,520**	**2,666**	**2,986**	**2,614**	**2,754**	**2,903**	**3,237**	**9,783**	**9,816**	**9,366**	**11,507**	**12,529**
Margins (%)																	
Gross Margin	*16%*	*15%*	*15%*	*15%*	*12%*	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*	*14%*	*15%*	*16%*
Operating Margin	*8%*	*7%*	*7%*	*6%*	*2%*	*7%*	*7%*	*7%*	*7%*	*7%*	*7%*	*8%*	*6.6%*	*6.9%*	*5.9%*	*7.1%*	*7.4%*
EBITDA Margin	*4%*	*5%*	*4%*	*5%*	*5%*	*4%*	*4%*	*4%*	*5%*	*5%*	*5%*	*5%*	*4.4%*	*4.5%*	*4.4%*	*4.7%*	*5.2%*
Net Margin	*6%*	*5%*	*6%*	*5%*	*3%*	*6%*	*6%*	*6%*	*6%*	*6%*	*6%*	*6%*	*5.5%*	*5.5%*	*5.1%*	*5.8%*	*6.0%*
Sequential Growth (%)																	
Revenue	*-4%*	*1%*	*-3%*	*4%*	*-5%*	*5%*	*3%*	*8%*	*-5%*	*1%*	*3%*	*6%*	*4%*	*1%*	*3%*	*6%*	*6%*
Gross Profit	*8%*	*-4%*	*-5%*	*3%*	*-23%*	*33%*	*3%*	*8%*	*-5%*	*1%*	*3%*	*6%*	*12%*	*3%*	*-2%*	*12%*	*9%*
EBIT	*27%*	*-14%*	*1%*	*-3%*	*-65%*	*198%*	*7%*	*14%*	*-15%*	*7%*	*6%*	*13%*	*13%*	*5%*	*-12%*	*29%*	*10%*
Net Profit	*11%*	*-19%*	*14%*	*-7%*	*-49%*	*111%*	*6%*	*12%*	*-12%*	*5%*	*5%*	*11%*	*9%*	*0%*	*-5%*	*23%*	*9%*
EPS	*11%*	*-19%*	*14%*	*-7%*	*-49%*	*111%*	*6%*	*12%*	*-12%*	*5%*	*5%*	*11%*	*9%*	*0%*	*-5%*	*23%*	*9%*

SKC (UW): Earnings model

Won in billions, year-end December

	2025				2026E				2027E								
	1Q	2Q	3Q	4Q	1QE	2QE	3QE	4QE	1QE	2QE	3QE	4QE	2024	2025E	2026E	2027E	2028E
Revenue	**439**	**467**	**506**	**428**	**473**	**519**	**568**	**607**	**605**	**668**	**748**	**788**	**1,775**	**1,840**	**2,166**	**2,810**	**3,526**
Chemical	295	275	274	248	264	269	259	259	259	259	259	259	1,187	1,091	1,049	1,034	1,034
Industry Material	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mobility Material	99	127	167	113	149	180	234	273	250	299	352	373	343	506	837	1,274	1,554
Semiconductor Material	44	61	65	72	65	75	80	80	102	115	143	162	210	242	300	521	957
Others	1	4	1	-5	-5	-5	-5	-5	-5	-5	-5	-5	35	1	-19	-19	-19
Depreciation & Amortization	46	45	43	54	45	45	45	45	67	66	66	66	176	188	180	265	325
COGS	406	421	447	398	374	398	468	486	469	505	534	549	1,570	1,671	1,725	2,058	2,333
Gross Profit	**-14**	**2**	**16**	**-23**	**54**	**76**	**56**	**76**	**70**	**97**	**148**	**174**	**29**	**-19**	**262**	**487**	**868**
Operating Expense	61	72	69	84	93	102	112	120	119	132	147	155	252	286	427	554	695
Operating profit	**-74**	**-70**	**-53**	**-108**	**-39**	**-26**	**-56**	**-43**	**-50**	**-35**	**0**	**18**	**-223**	**-305**	**-165**	**-66**	**173**
Chemical	-18	-16	-7	-31	-3	2	-6	-5	-5	-5	-5	-5	(53)	(73)	(11)	(21)	(21)
Industry Material	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-
Mobility Material	-35	-38	-35	-67	-25	-17	-42	-30	-31	-21	-5	-4	(155)	(175)	(114)	(61)	1
Semiconductor Material	7	14	17	22	20	23	24	24	3	7	27	43	45	61	90	80	247
Others	-28	-30	-28	-32	-32	-34	-33	-32	-16	-16	-16	-16	(121)	(118)	(130)	(64)	(54)
Net Interest Income	-34	-33	-32	-30	-22	-24	-12	-17	-15	-16	-17	-17	-143	-129	-76	-65	-70
Net Other Income	-18	-69	-46	-332	-17	-17	-17	-17	-17	-17	-17	-17	-231	-465	-68	-68	-68
Pre Tax Profit	-127	-172	-131	-469	-79	-67	-86	-77	-81	-68	-34	-16	-597	-899	-309	-199	35
Tax	-8	-24	-13	2	-8	-7	-9	-8	-8	-7	-3	-2	-84	-44	-31	-20	3
Extraordinaries	-14	-152	-27	72	2	2	1	1	-1	-1	2	4	-135	-121	6	5	27
Net Profit	**-105**	**3**	**-91**	**-542**	**-73**	**-63**	**-78**	**-71**	**-72**	**-61**	**-33**	**-19**	**-378**	**-734**	**-284**	**-184**	**5**
EPS (W)	**-2,770**	**89**	**-2,394**	**-14,319**	**-1,918**	**-1,660**	**-1,569**	**-1,422**	**-1,454**	**-1,223**	**-656**	**-379**	**-11,404**	**-19,393**	**-6,568**	**-3,713**	**91**
Margins (%)																	
Gross Margin	-3	0	3	-5	11	15	10	13	11	14	20	22	2	-1	12	17	25
Operating Margin	-17	-15	-10	-25	-8	-5	-10	-7	-8	-5	0	2	-13	-17	-8	-2	5
Chemical	-6	-6	-3	-12	-1	1	-2	-2	-2	-2	-2	-2	-4	-7	-1	-2	-2
Industry Material	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mobility Material	-35	-30	-21	-59	-17	-10	-18	-11	-13	-7	-2	-1	-45	-35	-14	-5	0
Semiconductor Material	15	24	27	30	30	30	30	30	3	6	19	27	21	25	30	15	26
EBITDA Margin	-6	-5	-2	-13	1	4	-2	0	3	5	9	11	-3	-6	1	7	14
Net Margin	-24	1	-18	-127	-15	-12	-14	-12	-12	-9	-4	-2	-21	-40	-13	-7	0
Sequential Growth (%)																	
Revenue	3	7	8	-15	10	10	9	7	0	10	12	5	-16	4	18	30	n/a
Gross Profit	n/a	n/a	818	n/a	n/a	41	-27	37	-9	39	53	18	-72	n/a	n/a	86	n/a
EBIT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8,597	n/a	n/a	n/a	n/a	n/a
Net Profit	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EPS	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: Company data, J.P. Morgan estimates.

Samsung C&T (OW): Earnings model

Won in billions, year-end December

	2025				2026E				2027E								
	1Q	2Q	3Q	4Q	1Q	2QE	3QE	4QE	1QE	2QE	3QE	4QE	2024	2025	2026E	2027E	2028E
Revenue	**9,737**	**10,022**	**10,151**	**10,832**	**10,466**	**10,751**	**10,739**	**11,691**	**11,082**	**11,481**	**11,296**	**12,249**	**42,103**	**40,742**	**43,646**	**46,108**	**48,337**
Construction	3,620	3,395	3,090	4,044	3,413	3,768	3,554	4,812	3,788	4,108	3,802	5,053	18,655	14,149	15,547	16,751	18,056
Trading	3,436	3,776	3,885	3,540	4,114	3,889	4,002	3,611	4,135	3,909	4,022	3,629	12,996	14,637	15,616	15,694	15,615
Leisure	108	223	205	186	105	219	209	190	106	221	211	192	783	722	722	730	737
Food	771	828	866	799	825	890	931	859	887	957	1,001	923	3,119	3,264	3,505	3,768	4,050
Fashion	504	510	445	560	573	551	472	582	590	567	486	600	2,004	2,019	2,178	2,243	2,311
Bio	1,298	1,290	1,660	1,703	1,436	1,434	1,572	1,636	1,576	1,719	1,775	1,853	4,547	5,951	6,078	6,922	7,567
Operating profit	**724**	**753**	**993**	**822**	**720**	**846**	**942**	**998**	**793**	**1,051**	**1,093**	**1,161**	**2,983**	**3,293**	**3,505**	**4,098**	**4,396**
OP margin, %	*7%*	*8%*	*10%*	*8%*	*7%*	*8%*	*9%*	*9%*	*7%*	*9%*	*10%*	*9%*	*7.1%*	*8.1%*	*8.0%*	*8.9%*	*9.1%*
Construction	159	118	111	148	111	173	174	255	182	214	205	283	1,001	536	714	884	983
Trading	63	80	76	53	109	86	80	65	91	86	88	80	301	272	340	345	344
Leisure	(31)	9	20	20	(35)	9	21	17	(31)	9	21	15	59	18	12	15	16
Food	19	45	53	35	14	43	56	36	27	48	60	41	157	152	149	175	196
Fashion	34	33	12	45	38	36	14	48	40	39	16	50	170	124	136	145	149
Bio	480	468	721	521	484	498	597	577	484	656	703	692	1,295	2,190	2,156	2,535	2,709
Non-operating Income	746	545	274	489	996	319	314	346	6,249	377	373	405	2,258	2,054	1,975	7,404	7,968
Non-operating Loss	262	545	62	199	371	270	273	291	279	288	287	305	1,519	1,069	1,206	1,159	1,216
Pre Tax Profit	1,208	753	1,205	1,112	1,345	894	983	1,052	6,763	1,140	1,180	1,261	3,722	4,277	4,275	10,343	11,149
Tax	266	226	321	(460)	259	206	226	242	1,555	262	271	290	950	354	933	2,379	2,564
Extraordinaries	204	173	318	768	242	209	243	232	231	262	280	278	542	1,463	926	1,050	1,173
Net Profit	**738**	**353**	**567**	**803**	**844**	**479**	**514**	**578**	**4,977**	**616**	**628**	**693**	**2,230**	**2,461**	**2,416**	**6,914**	**7,412**
EPS (W)	**4,318**	**2,078**	**3,336**	**4,724**	**4,944**	**2,821**	**3,022**	**3,402**	**29,252**	**3,621**	**3,697**	**4,078**	**12,406**	**14,457**	**14,189**	**40,649**	**43,577**
Margins (%)																	
Operating Margin	*7%*	*8%*	*10%*	*8%*	*7%*	*8%*	*9%*	*9%*	*7%*	*9%*	*10%*	*9%*	*7%*	*8%*	*8%*	*9%*	*9%*
Construction	*4%*	*3%*	*4%*	*4%*	*3%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*6%*	*5%*	*4%*	*5%*	*5%*	*5%*
Trading	*2%*	*2%*	*2%*	*1%*	*3%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*
Leisure	*-29%*	*4%*	*10%*	*11%*	*-33%*	*4%*	*10%*	*9%*	*-29%*	*4%*	*10%*	*8%*	*8%*	*2%*	*2%*	*2%*	*2%*
Food	*2%*	*5%*	*6%*	*4%*	*2%*	*5%*	*6%*	*4%*	*3%*	*5%*	*6%*	*4%*	*5%*	*5%*	*4%*	*5%*	*5%*
Fashion	*7%*	*6%*	*3%*	*8%*	*7%*	*7%*	*3%*	*8%*	*7%*	*7%*	*3%*	*8%*	*8%*	*6%*	*6%*	*6%*	*6%*
Net Margin	*8%*	*4%*	*6%*	*7%*	*8%*	*4%*	*5%*	*5%*	*45%*	*5%*	*6%*	*6%*	*5%*	*6%*	*6%*	*15%*	*15%*
Sequential Growth (%)																	
Revenue	*-3%*	*3%*	*1%*	*7%*	*-3%*	*3%*	*0%*	*9%*	*-5%*	*4%*	*-2%*	*8%*	*0%*	*-3%*	*7%*	*6%*	*5%*
EBIT	*14%*	*4%*	*32%*	*-17%*	*-12%*	*17%*	*11%*	*6%*	*-21%*	*33%*	*4%*	*6%*	*4%*	*10%*	*6%*	*17%*	*7%*
Net Profit	*55%*	*-52%*	*61%*	*42%*	*5%*	*-43%*	*7%*	*13%*	*761%*	*-88%*	*2%*	*10%*	*1%*	*10%*	*-2%*	*186%*	*7%*
EPS	*61%*	*-52%*	*61%*	*42%*	*5%*	*-43%*	*7%*	*13%*	*760%*	*-88%*	*2%*	*10%*	*5%*	*17%*	*-2%*	*186%*	*7%*

SK Inc (OW): Earnings model

Won in billions, year-end December

	2025				2026E				2027E								
	1Q	2Q	3Q	4Q	1Q	2QE	3QE	4QE	1QE	2QE	3QE	4QE	2024	2025	2026E	2027E	2028E
Revenue	**31,230**	**30,142**	**31,041**	**30,290**	**36,751**	**35,405**	**35,809**	**34,908**	**34,052**	**34,400**	**35,015**	**34,196**	**124,690**	**122,703**	**142,874**	**137,663**	**136,727**
SK Innovation	21,147	19,307	20,533	19,671	24,212	24,436	24,276	23,598	23,000	23,000	23,000	22,547	74,717	80,657	96,522	91,547	86,697
SK Telecom	4,454	4,339	3,978	4,329	4,392	4,388	4,426	4,360	4,405	4,409	4,448	4,379	17,941	17,100	17,567	17,640	18,454
SK Square	403	407	408	194	260	282	285	291	252	275	278	284	1,907	1,412	1,118	1,088	1,064
SK Networks	1,637	1,516	1,973	1,620	1,743	1,600	1,900	1,650	1,793	1,650	1,950	1,700	8,059	6,746	6,893	7,093	7,293
SKC	439	467	506	428	497	519	568	607	605	668	748	788	1,775	1,840	2,190	2,810	2,810
SK Ecoplant	2,611	3,189	3,428	2,964	4,900	4,560	4,580	4,435	5,145	4,788	4,809	4,657	9,318	12,192	18,475	19,398	20,368
SK Siltron	462	518	517	561	453	0	0	0	0	0	0	0	2,127	2,057	453	0	0
SK Materials	90	94	103	120	0	0	0	0	0	0	0	0	1,093	407	0	0	0
SK Biopharmceutical	144	176	192	194	228	230	239	244	256	267	278	289	548	707	941	1,092	1,262
SK Pharmteco	238	202	202	290	194	200	260	280	200	210	270	290	850	932	934	970	1,010
Parent	788	1,004	865	956	718	858	962	1,088	0	754	884	872	3,707	3,612	3,626	2,511	4,210
Others (incl. adjustment)	-1,181	-1,077	-1,663	-1,037	-846	-1,668	-1,687	-1,645	-1,605	-1,621	-1,650	-1,611	-5,912	-4,958	-5,846	-6,487	-6,443
Operating profit	**400**	**200**	**827**	**392**	**3,673**	**2,074**	**1,809**	**1,627**	**2,118**	**2,151**	**2,129**	**1,930**	**2,355**	**1,818**	**9,182**	**8,328**	**8,983**
OP margin, %	*1%*	*1%*	*3%*	*1%*	*10%*	*6%*	*5%*	*5%*	*6%*	*6%*	*6%*	*6%*	*1.9%*	*1.5%*	*6.4%*	*6.0%*	*6.6%*
SK Innovation	-45	-418	586	295	2,162	750	559	724	700	750	750	893	315	419	4,195	3,093	3,374
SK Telecom	567	338	48	119	538	535	539	278	525	566	566	297	1,823	1,073	1,889	1,955	2,062
SK Square	1,652	1,401	2,646	3,098	8,278	11,907	13,672	15,000	9,763	16,495	17,577	18,474	3,913	8,797	48,858	62,309	67,658
SK Networks	16	43	22	4	33	27	34	33	34	27	35	34	157	86	127	131	135
SKC	-75	-70	-53	-108	-29	-26	-56	-43	-50	-35	0	18	-284	-305	-154	-66	-66
SK Ecoplant	57	153	157	-51	931	852	771	673	978	894	809	706	235	316	3,226	3,388	3,557
SK Siltron	38	54	37	64	9	0	0	0	0	0	0	0	316	193	9	0	0
SK Materials	19	19	20	34	0	0	0	0	0	0	0	0	202	92	0	0	0
SK Biopharmceutical	26	62	70	46	90	82	78	59	92	97	99	92	96	204	309	379	477
SK Pharmteco	-40	-53	-50	-11	-51	-36	-21	-11	-50	-36	-19	-9	-217	-154	-119	-113	-98
Parent	176	176	197	406	125	131	199	188	388	318	324	336	998	955	643	1,366	2,151
Others (incl. adjustment)	-1,993	-1,506	-2,854	-3,505	-8,413	-12,148	-13,966	-15,274	-10,262	-16,926	-18,013	-18,912	-6,202	-9,858	-49,801	-64,113	-70,266
Pre Tax Profit	1,642	490	3,222	(2,717)	11,647	13,755	15,261	16,397	11,777	18,406	19,448	20,125	1,097	2,637	57,061	69,756	75,502
Tax	(82)	(344)	304	404	1,712	2,022	2,243	2,410	1,731	2,705	2,858	2,958	748	281	8,387	10,253	11,097
Extraordinaries	(624)	287	1,967	(871)	6,555	8,149	9,347	10,247	6,783	11,263	11,998	12,605	1,641	758	34,298	42,648	46,282
Net Profit	**2,349**	**548**	**951**	**(2,250)**	**3,381**	**3,584**	**3,671**	**3,740**	**3,264**	**4,438**	**4,592**	**4,562**	**-1,293**	**1,597**	**14,376**	**16,855**	**18,124**
EPS (W)	**32,400**	**7,552**	**13,115**	**(31,034)**	**46,629**	**49,938**	**51,142**	**52,103**	**56,452**	**76,771**	**79,433**	**78,907**	**-17,787**	**22,034**	**199,778**	**291,563**	**313,499**
Margins (%)																	
Operating Margin	*1%*	*1%*	*3%*	*1%*	*10%*	*6%*	*5%*	*5%*	*6%*	*6%*	*6%*	*6%*	*2%*	*1%*	*6%*	*6%*	*7%*
Net Margin	*8%*	*2%*	*3%*	*-7%*	*9%*	*10%*	*10%*	*11%*	*10%*	*13%*	*13%*	*13%*	*-1%*	*1%*	*10%*	*12%*	*13%*
Sequential Growth (%)																	
Revenue	*5%*	*-3%*	*3%*	*-2%*	*21%*	*-4%*	*1%*	*-3%*	*-2%*	*1%*	*2%*	*-2%*	*-5%*	*-2%*	*16%*	*-4%*	*-1%*
EBIT	*-189%*	*-50%*	*315%*	*-53%*	*838%*	*-44%*	*-13%*	*-10%*	*30%*	*2%*	*-1%*	*-9%*	*-53%*	*-23%*	*405%*	*-9%*	*8%*
Net Profit	*-210%*	*-77%*	*74%*	*-337%*	*-250%*	*6%*	*2%*	*2%*	*-13%*	*36%*	*3%*	*-1%*	*66%*	*-224%*	*800%*	*17%*	*8%*
EPS	*-210%*	*-77%*	*74%*	*-337%*	*-250%*	*7%*	*2%*	*2%*	*8%*	*36%*	*3%*	*-1%*	*68%*	*-224%*	*807%*	*46%*	*8%*

LG Corp (N): Earnings model

Won in billions, year-end December

	2025				2026E				2027E							
	1Q	**2Q**	**3Q**	**4Q**	**1Q**	**2QE**	**3QE**	**4QE**	**1QE**	**2QE**	**3QE**	**4QE**	**2024**	**2025**	**2026E**	**2027E**
Revenue	**1,936**	**1,798**	**1,996**	**1,523**	**1,801**	**2,089**	**2,238**	**2,831**	**2,232**	**2,473**	**2,531**	**2,796**	**7,176**	**7,253**	**8,960**	**10,033**
S&I	80	65	66	80	88	68	69	84	93	71	72	88	286	291	309	325
Equity Method, Royalty, and Lease	605	212	347	-535	369	422	469	617	709	702	658	428	731	630	1,878	2,498
Others and adjustment	1,250	1,521	1,584	1,977	1,343	1,600	1,700	2,130	1,430	1,700	1,800	2,280	6,159	6,332	6,773	7,210
Operating profit	**638**	**277**	**419**	**(422)**	**414**	**456**	**550**	**911**	**738**	**678**	**724**	**720**	**967**	**912**	**2,331**	**2,861**
OP margin, %	*33%*	*15%*	*21%*	*-28%*	*23%*	*22%*	*25%*	*32%*	*33%*	*27%*	*29%*	*26%*	*13.5%*	*12.6%*	*26.0%*	*28.5%*
S&I	10	-11	1	6	16	-10	1	7	14	-11	1	7	7	6	13	12
Equity Method, Royalty, and Lease	549	147	298	-640	304	316	399	679	624	527	560	471	447	354	1,698	2,181
Others and adjustment	79	141	120	212	94	150	150	225	100	163	163	243	513	552	619	668
Non-operating Income	74	30	26	401	65	30	30	50	50	30	30	50	205	531	175	160
Non-operating Loss	48	36	6	17	36	31	13	16	41	31	13	16	165	108	96	100
Pre Tax Profit	664	270	439	(38)	443	455	567	945	747	678	741	755	1,007	1,335	2,411	2,921
Tax	56	26	65	188	64	100	125	208	164	149	163	166	217	335	497	643
Extraordinaries	28	40	58	137	39	27	33	55	44	40	43	44	216	263	154	171
Net Profit	**580**	**205**	**315**	**(363)**	**340**	**329**	**409**	**682**	**539**	**489**	**534**	**545**	**575**	**737**	**1,760**	**2,107**
EPS (W)	**3,554**	**1,277**	**1,967**	**(2,264)**	**2,055**	**2,050**	**2,554**	**4,255**	**3,296**	**3,051**	**3,334**	**3,398**	**3,520**	**4,533**	**10,911**	**13,079**
Margins (%)																
Operating Margin	*33%*	*15%*	*21%*	*-28%*	*23%*	*22%*	*25%*	*32%*	*33%*	*27%*	*29%*	*26%*	*13%*	*13%*	*26%*	*29%*
Serve One	*13%*	*-17%*	*1%*	*8%*	*18%*	*-15%*	*2%*	*8%*	*15%*	*-15%*	*2%*	*8%*	*3%*	*2%*	*4%*	*4%*
Equity Method, Royalty, and Lease	*91%*	*70%*	*86%*	*120%*	*82%*	*75%*	*85%*	*110%*	*88%*	*75%*	*85%*	*110%*	*61%*	*56%*	*90%*	*87%*
Net Margin	*30%*	*11%*	*16%*	*-24%*	*19%*	*16%*	*18%*	*24%*	*24%*	*20%*	*21%*	*19%*	*8%*	*10%*	*20%*	*21%*
Sequential Growth (%)																
Revenue	*9%*	*-7%*	*11%*	*-24%*	*18%*	*16%*	*7%*	*27%*	*-21%*	*11%*	*2%*	*10%*	*-4%*	*1%*	*24%*	*12%*
EBIT	*-364%*	*-57%*	*51%*	*-201%*	*-198%*	*10%*	*21%*	*65%*	*-19%*	*-8%*	*7%*	*0%*	*-39%*	*-6%*	*156%*	*23%*
Net Profit	*-248%*	*-65%*	*54%*	*-215%*	*-194%*	*-3%*	*25%*	*67%*	*-21%*	*-9%*	*9%*	*2%*	*-54%*	*28%*	*139%*	*20%*
EPS	*-245%*	*-64%*	*54%*	*-215%*	*-191%*	*0%*	*25%*	*67%*	*-23%*	*-7%*	*9%*	*2%*	*-55%*	*29%*	*141%*	*20%*

Source: Company data, J.P. Morgan estimates.

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