Goldman Sachs Research

Equity Research

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GLOBAL SERVER

Higher mix of rack-level AI servers; Introducing 2028 forecasts

We raise our global servers TAM on a more positive outlook for AI server, and introduce 2028E estimates. We refresh our forecasts for (1) AI training servers - full rack / high power, (2) AI inferencing servers, (3) General servers, (4) HPC servers, and (5) leading US and China cloud capex. **We expect total Rack level AI server shipment (incl. Nvidia and AMD)** to reach 50k/ 90k in 2026E/27E (vs. 55k/ 80k in 2026, 27E previously), and we forecast 2028E shipments at 136k; the higher rack level forecast reflects our expectation that more Nvidia GPUs will be shipped in rack-level format to achieve more intense design and stronger GPU interconnection. **On ASIC AI servers,** we expect an accelerating ASIC adoption that leads ASICs to account for 43%/ 50%/ 55% of AI chips in 2026/27/ 28E, increasing their mix from our previous estimate of 40%/ 50% in 2026/27E (Read more). Our global AI server volume forecast implies demand for AI chips at 17m/ 22m/ 28m in 2026-28E (Exhibit 1), which increases from our last update due to our revised outlook on rack level and baseboard based AI servers across ASIC and GPU base. We forecast positive demand trend for GPU and ASIC platforms, and new AI servers based on new networking architectures from 2027 which will further enhance the advancement in computing performance. We expect the continuing AI infrastructure cycle to support growth through 2028E.

AI servers: Buy Wiwynn / Wistron (ODM), Hon Hai / FII (ODM), LandMark (Silicon photonics), VPEC (Silicon photonics), AVC / Fositek (liquid cooling), Auras (liquid cooling), King Slide (rail kits), Chenbro (chassis), EMC (CCL), GCE (PCB), Innolight/ Eoptolink/ TFC Optical (Optical connections), TSMC (foundry; on CL), MPI (probe cards), WinWay (sockets), Aspeed (fabless), and Hon Precision (FT handler).

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Exhibit 1: AI Server estimates: implied GPU vs. ASIC volume

	2024	2025	2026E	2027E	2028E
AI server shipment (k units, 8-GPU equivalent)	**1,018**	**1,335**	**2,074**	**2,745**	**3,520**
Training (with 500 TFLOPS+ GPUs/ ASICs)	554	866	1,513	2,082	2,730
Training - High power	551	692	1,016	1,272	1,506
Training - Rack level	3	174	498	810	1,224
Inferencing	464	469	560	663	791
AI server shipment (k units, 8-GPU equivalent)	**1,018**	**1,335**	**2,074**	**2,745**	**3,520**
GPU	651	834	1,181	1,381	1,572
ASIC	367	502	893	1,364	1,948
Implied # of AI chips (Training and Inferencing) (k units)	**8,145**	**10,682**	**16,590**	**21,963**	**28,164**
GPU	5,205	6,670	9,447	11,050	12,576
ASIC	2,940	4,012	7,143	10,913	15,587
Mix	**100%**	**100%**	**100%**	**100%**	**100%**
GPU	64%	62%	57%	50%	45%
ASIC	36%	38%	43%	50%	55%

1) ASIC estimates include ASICs designed by Chinese suppliers; 2) GPU counts may differ from upstream data due to inventory and manufacturing time of server racks.

Source: Company data, Goldman Sachs Global Investment Research

AI server updates: We increase our volume estimates for **high power AI servers** (i.e. powered by 500 TFlops+ ASIC and GPUs, such as H200, B200, etc.) by 7%/ 4% in 2026-27E and **inferencing AI servers** (e.g. powered by L40S, L20, ASICs, etc.) by 4%/ 1% in 2026-27E, supported by the increased cloud capex and the growing AI application usage globally.

After GTC 2026, we see a diversifying choice of rack-level design for various use cases, as more AI chips are connected to achieve higher computing power and faster data transmission. We raise shipment volume estimates for **full rack AI servers** (e.g. powered by GB200, GB300, MI450 series etc.) to 55k/ 90k/ 136k racks (our outlook for AMD related AI racks is unchanged, while we raise the mix for Nvidia GPUs that are going to ship in rack-level form factor, Exhibit 4). With increasing AI server estimates, our implied AI chip forecast increases by 4%/ 5% to 17m/ 22m in 2026-27E, which we expect to reach 28m in 2028E (newly introduced).

CSP capex: Regarding customer spending, our US internet team forecasts that leading US cloud service providers (CSPs) in aggregate will grow their capex budgets by 63%/ 15%/ 10% YoY in 2026-28E (increased from 37%/ 15% YoY in 2026-27E in our last update in Jan). Within China internet space, we expect leading Chinese cloud platforms to grow capex by 42%/ 14%/ 10% YoY in 2026-28E (up from +17%/ +9% in 2026-27E previously)

Related reports:

Global Tech: PCs, smartphones, servers: Quantifying market opportunities (launching Global TAMs on Oct 3, 2023)

Global Tech: Server TAM: Introducing rack-level AI server forecasts (Oct 29, 2024)

Global Tech: Server TAM updates: AI server shipment timeframe recalibrating (Feb 9, 2025)

Global Tech: Server TAM updates: Revising down AI Training Server outlook (Mar 24, 2025)

Global Tech: ASIC AI server TAM introduced; Server TAM update and baseboard-based AI servers raised (June 28, 2025)

Global Server: 2027E estimates introduced; Raising baseboard-based AI servers with rising ASIC penetration (Sep 27, 2025)

Global Server: ASIC servers expanding; AI full racks see diversifying chip platform (Jan 4, 2026)

Outlook for servers

- **AI training servers - expanding full rack estimates to include more form factors** (e.g. GB200/GB300/Vera Rubin in NVL72/NVL144 config. and MI450 series in Helios config.). Full rack AI servers shipments started in 4Q24 along with Nvidia's Blackwell platform, and we expect more AI servers to ship in full rack design from 2H26, including AMD's Helios rack as well as Nvidia's Oberon and Kyber rack. We raise Nvidia full rack server shipment to 50k/ 77k/ 121k in 2026-28E, compared to 50k/ 67k in 2026-27E previously; We forecast AMD full rack server shipment to be at 5k/ 13k/ 15k in 2026-28E, compared to 5k/ 13k previously. This implies a TAM size of US$165bn/ 287bn/ 461bn in 2026-27E (vs. previously US$165bn/ 255bn for 2026-27E).
- **AI training servers - high power in stronger ramp up** (e.g. H200/B200/B300 servers and ASIC AI servers, with single chip computing power >500 TFlops). Shipments should amount to 1.0m/ 1.3m/ 1.5m units in 2026-28E measured in 8-GPU equivalent, or +47%/ +25%/ +18% YoY (vs. previously 952k/ 1,227k in 2026-27E), with a TAM size of US$239bn/ 267bn/ 304bn (vs. previously US$205bn/ 251bn in 2026-27E). We are positive on the demand outlook for baseboard-based AI servers given their larger room for customization and lower budget burden for clients. The ramp up of high power ASIC chips also support our more positive view on the segment.
- **Inferencing servers to follow** (e.g. L40S/L20 servers and ASIC AI servers, with single chip computing power <500 TFlops). We expect shipments to increase to 560k/ 663k/ 791k in 2026-28E, or +19%/ +18%/ +19% YoY (vs. previously 539k/ 656k in 2026-27E), with a TAM size of US$39bn/ 51bn/ 67bn in 2026-28E vs. US$36bn/ 48bn in 2026-27E previously. We expect this growth to be driven by increasing applications.
- **General servers shipment to also grow.** We expect volumes to grow 4%/ 2%/ 3% YoY in 2026-28E and revenues to grow 15%/ 6%/ 6% YoY, supported by (1) increasing AI inferencing workload on general servers, and (2) rising ASP on increasing data processing needs driving product mix upgrade, and increasing memory price.

Servers: AI training server volume +75%/+38%/+31% in 2026-28E; General server volume +4%/ +2%/ +3% YoY

Global Server market opportunity

(Shipments in k units/ k racks)

Our Bottom up method

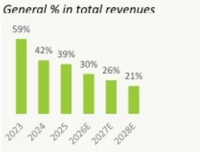
Global server TAM = **General server** + **AI** server (high power) + **AI** server (others) + **HPC**

General server

General server shipments = shipments of Top 6 server brands + ODM direct + others

General server revenues = shipments of each company x ASP of each company

General % in total revenues

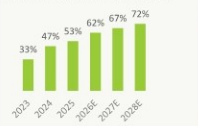


AI server

AI server shipments = shipments of Top 6 server brands + ODM direct + others

AI server revenue = shipments x ASP

AI training % in total revenues



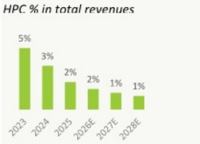
AI inferencing % in total revenues

HPC server

HPC server shipments = shipments of Top 6 server brands + ODM direct + others

HPC server revenue = shipments X ASP

HPC % in total revenues



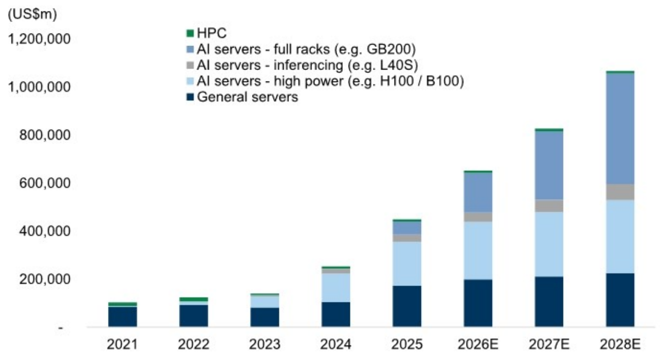
Revenues by type		1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
Global server revenues	**US$ m**	**95,261**	**110,833**	**114,917**	**128,072**	**142,195**	**155,449**	**166,478**	**187,953**	**140,392**	**253,023**	**449,082**	**652,074**	**826,682**	**1,067,254**
General servers	US$ m	42,743	45,961	41,437	43,038	45,076	50,885	50,749	52,057	82,354	105,441	173,179	198,766	211,350	224,675
AI servers - training	US$ m	41,537	56,893	64,484	73,757	86,128	93,123	102,848	122,055	46,008	119,375	236,671	404,155	553,918	765,068
AI servers - high power	US$ m	37,014	48,077	48,485	48,508	54,521	58,349	61,561	64,907	46,008	118,160	182,085	239,338	267,087	304,305
AI servers - full racks	US$ m	4,523	8,815	15,999	25,249	31,607	34,774	41,287	57,148	-	1,215	54,586	164,817	286,831	460,763
AI servers - inferencing	US$ m	8,620	5,522	6,706	8,884	8,672	8,962	10,348	11,186	5,128	19,487	29,732	39,168	51,380	67,163
HPC	US$ m	2,361	2,458	2,289	2,393	2,319	2,478	2,533	2,655	6,903	8,720	9,500	9,985	10,034	10,349
Mix		1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
Total	**%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
General servers	%	45%	41%	36%	34%	32%	33%	30%	28%	59%	42%	39%	30%	26%	21%
AI servers - training	%	44%	51%	56%	58%	61%	60%	62%	65%	33%	47%	53%	62%	67%	72%
AI servers - inferencing	%	9%	5%	6%	7%	6%	6%	6%	6%	4%	8%	7%	6%	6%	6%
HPC	%	2%	2%	2%	2%	2%	2%	2%	1%	5%	3%	2%	2%	1%	1%
Revenues YoY		1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
Total	**%**	**134%**	**97%**	**60%**	**52%**	**49%**	**40%**	**45%**	**47%**	**13%**	**80%**	**77%**	**45%**	**27%**	**29%**
General servers	%	105%	114%	58%	17%	5%	11%	22%	21%	-12%	28%	64%	15%	6%	6%
AI servers - training	%	196%	106%	67%	89%	107%	64%	59%	65%	241%	159%	98%	71%	37%	38%
AI servers - high power	%	164%	74%	25%	28%	47%	21%	27%	34%	241%	157%	54%	31%	12%	14%
AI servers - full racks	%				1978%	599%	294%	158%	126%			4393%	202%	74%	61%
AI servers - inferencing	%	102%	15%	44%	54%	1%	62%	54%	26%		280%	53%	32%	31%	31%
HPC	%	55%	6%	-5%	-3%	-2%	1%	11%	11%	-59%	26%	9%	5%	0%	3%
Revenues QoQ		1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
Total	**%**	**13%**	**16%**	**4%**	**11%**	**11%**	**9%**	**7%**	**13%**						
General servers	%	16%	8%	-10%	4%	5%	13%	0%	3%						
AI servers - training	%	6%	37%	13%	14%	17%	8%	10%	19%						
AI servers - high power	%	-2%	30%	1%	0%	12%	7%	6%	5%						
AI servers - full racks	%	272%	95%	81%	58%	25%	10%	19%	38%						
AI servers - inferencing	%	50%	-36%	21%	32%	-2%	3%	15%	8%						
HPC	%	-4%	4%	-7%	5%	-3%	7%	2%	5%						
Shipments by type	**Units**	**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26E**	**2Q26E**	**3Q26E**	**4Q26E**	**2023**	**2024**	**2025**	**2026E**	**2027E**	**2028E**
Global server shipments															
General servers	k units	3,371	3,674	3,609	3,695	3,530	3,865	3,782	3,678	11,409	12,544	14,350	14,855	15,199	15,644
AI servers - training	k units*	147	198	219	302	311	347	391	464	234	554	866	1,513	2,082	2,730
AI servers - high power	k units	133	170	168	221	215	242	267	292	234	551	692	1,016	1,272	1,506
AI servers - full racks	k racks	2	3	6	9	11	12	14	19	-	0	19	55	90	136
AI servers - inferencing	k units	132	89	107	142	127	129	147	158	192	464	469	560	663	791
HPC	k units	196	164	175	175	214	163	181	168	643	683	710	726	734	758
Shipments YoY		1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
General servers	%	17%	17%	15%	8%	5%	5%	5%	0%	-14%	10%	14%	4%	2%	3%
AI servers - training	%	91%	31%	37%	81%	111%	75%	79%	54%	193%	137%	56%	75%	38%	31%
AI servers - high power	%	73%	13%	5%	35%	62%	42%	59%	32%	193%	135%	26%	47%	25%	18%
AI servers - full racks	%				2221%	582%	278%	145%	113%			4879%	187%	63%	51%
AI servers - inferencing	%	25%	-23%	-6%	10%	-4%	45%	37%	12%	1457%	141%	1%	19%	18%	19%
HPC	%	47%	-8%	-8%	-5%	9%	0%	3%	-4%	-55%	6%	4%	2%	1%	3%
Shipments QoQ		1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
General servers	%	-1%	9%	-2%	2%	-4%	9%	-2%	-3%						
AI servers - training	%	-12%	34%	11%	38%	3%	12%	13%	19%						
AI servers - high power	%	-18%	28%	-1%	31%	-3%	12%	10%	9%						
AI servers - full racks	%	303%	98%	82%	59%	18%	10%	18%	39%						
AI servers - inferencing	%	2%	-33%	21%	32%	-11%	2%	14%	8%						
HPC	%	7%	-17%	7%	0%	23%	-24%	11%	-7%						
Shipments by vendor		**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26E**	**2Q26E**	**3Q26E**	**4Q26E**	**2023**	**2024**	**2025**	**2026E**	**2027E**	**2028E**
General server	**k units**	**3,371**	**3,674**	**3,609**	**3,695**	**3,530**	**3,865**	**3,782**	**3,678**	**11,409**	**12,544**	**14,350**	**14,855**	**15,199**	**15,644**
Dell	k units	334	307	299	355	317	286	269	319	1,399	1,363	1,295	1,191	1,181	1,193
HP	k units	165	161	161	182	168	159	137	186	764	770	669	650	663	676
Super Micro	k units	156	173	134	130	165	135	135	142	783	810	592	578	557	579
Lenovo	k units	166	168	193	246	164	175	185	239	591	736	773	763	816	846
Gigabyte	k units	24	31	23	21	28	26	25	23	45	84	99	101	107	112
Quanta - ODM direct	k units	576	650	483	541	639	702	521	584	1,274	1,533	2,249	2,447	2,519	2,569
Hon Hai- ODM direct	k units	207	256	221	211	218	255	229	242	236	412	895	944	971	971
Wiwynn- ODM direct	k units	455	527	596	428	492	569	644	462	964	1,278	2,006	2,166	2,318	2,480
Inventec- ODM direct	k units	207	168	169	161	174	192	171	181	365	347	705	719	728	728
Others	k units	1,080	1,234	1,332	1,421	1,165	1,366	1,466	1,299	4,987	5,212	5,067	5,298	5,341	5,491
AI server - high power	**k units**	**133**	**170**	**168**	**221**	**215**	**242**	**267**	**292**	**234**	**551**	**692**	**1,016**	**1,272**	**1,506**
Dell	k units	8	30	22	38	25	30	35	40	7	41	97	130	170	186
HP	k units	2	5	3	2	4	8	6	6	1	15	13	24	23	26
Super Micro	k units	9	12	12	29	29	30	31	33	22	45	62	123	146	168
Lenovo	k units	1	4	4	3	1	6	8	6	0	6	12	21	29	40
Gigabyte	k units	4	9	5	5	6	7	5	5	4	20	23	24	26	28
Quanta - ODM direct	k units	19	20	24	34	29	27	30	39	24	59	97	125	127	131
Hon Hai- ODM direct	k units	6	15	11	12	26	27	32	32	41	71	44	117	192	269
Wiwynn- ODM direct	k units	20	39	50	51	44	44	45	55	4	34	160	188	225	270
Inventec- ODM direct	k units	13	15	17	21	29	33	42	44	15	51	66	149	165	165
Others	k units	50	23	22	26	22	29	33	32	116	208	120	116	168	223
AI server - full racks	**k racks ****	**2**	**3**	**6**	**9**	**11**	**12**	**14**	**19**	**-**	**0**	**19**	**55**	**90**	**136**
Dell	k racks	0	1	1	0	1	1	1	1	-	0	2	5	6	8
HP	k racks	0	0	0	0	0	0	0	0	-	0	0	0	0	0
Super Micro	k racks	0	0	0	0	1	1	1	1	-	0	1	2	6	7
Gigabyte	k racks	-	0	0	0	0	0	0	0	-	-	0	1	2	2
Quanta - ODM direct	k racks	1	1	1	1	2	2	3	4	-	-	4	11	15	22
Hon Hai- ODM direct	k racks	0	1	4	6	6	7	8	11	-	-	11	31	54	86
Wiwynn- ODM direct	k racks	-	-	-	1	1	1	1	2	-	-	1	4	6	9
Inventec- ODM direct	k racks	-	-	-	-	-	0	0	0	-	-	-	1	1	1
Others	k racks	-	-	-	-	-	-	0	0	-	-	-	0	1	1

*8 GPU equi. **144 GPU equi. Full racks include Nvidia and AMD

Source: Company data, Goldman Sachs Global Investment Research, IDC

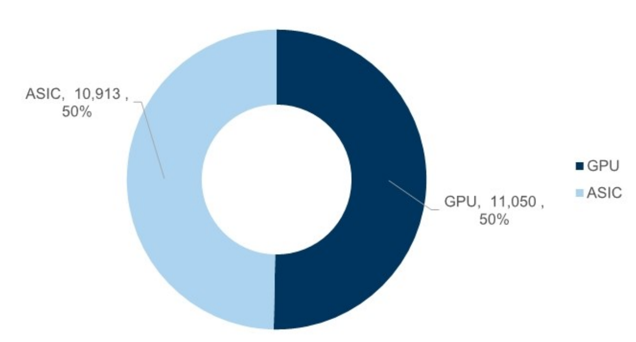
Outlook for servers

Exhibit 2: Global server TAM: 45%/ 27%/ 29% YoY to US$652bn/ 827bn/ 1,067bn in 2026-28E



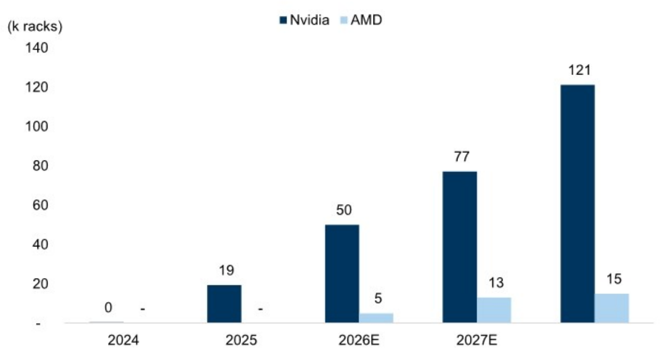
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 3: Implied AI chips volume (2027E)



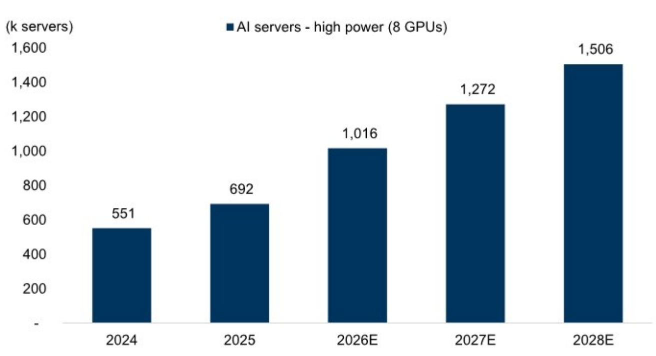
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 4: Rack level AI servers
Nvidia: 144 GPU dies per rack; AMD: 72 GPU modules per rack



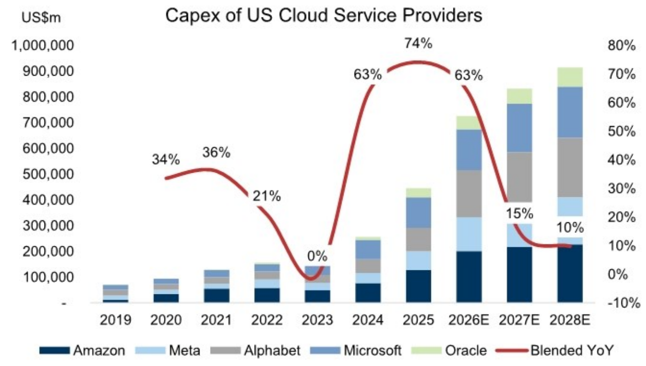
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 5: Baseboard based high power AI servers to sustain growth
8 GPU modules per server



Source: Company data, Goldman Sachs Global Investment Research

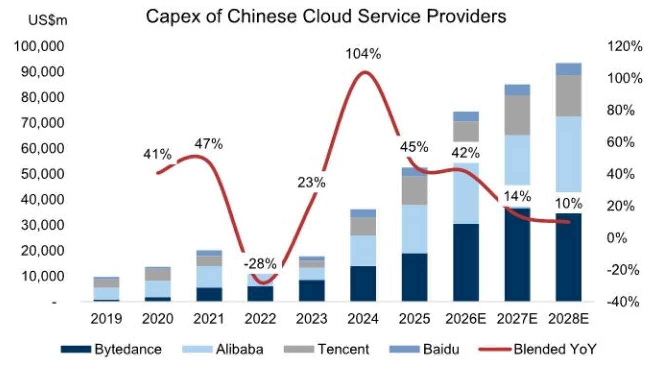
Exhibit 6: Leading US CSPs to grow capex by 63%/ 15%/ 10% YoY in 2026-28E



Data include Microsoft, Amazon, Meta, Alphabet and Oracle. For Microsoft, we use capex incl. financial lease. In FY24, 50% of the capex of Microsoft was spent on land and 50% on AI/Cloud.

Source: Company data, Goldman Sachs Global Investment Research

Exhibit 7: Leading China CSPs' capex +42%/ +14%/ 10% YoY in 2026-28E



Data include Bytedance, Tencent, Alibaba, Baidu. We calculate Bytedance (private) relevant operating metrics by analyzing the industry and companies that our China Internet team cover, and then extrapolating them to Bytedance.

Source: Company data, Goldman Sachs Global Investment Research

Read more: Microsoft, Amazon, Meta, Alphabet, Oracle

Server TAM estimate revisions

Exhibit 8: Server TAM: Revenue revisions

Global server revenues (US$m)	2025	2026E	2027E	2028E
New				
Global server revenues (US$m)	**449,082**	**652,074**	**826,682**	**1,067,254**
General servers	173,179	198,766	211,350	224,675
AI servers - training	236,671	404,155	553,918	765,068
AI servers - high power	182,085	239,338	267,087	304,305
AI servers - full racks (Nvidia and AMD)	54,586	164,817	286,831	460,763
AI servers - inferencing	29,732	39,168	51,380	67,163
HPC	9,500	9,985	10,034	10,349
YoY	**77%**	**45%**	**27%**	**29%**
General servers	64%	15%	6%	6%
AI servers - training	98%	71%	37%	38%
AI servers - high power	54%	31%	12%	14%
AI servers - full racks (Nvidia and AMD)	4393%	202%	74%	61%
AI servers - inferencing	53%	32%	31%	31%
HPC	9%	5%	0%	3%
Old				
Global server revenues (US$m)	**433,125**	**606,119**	**763,904**	
General servers	158,803	189,740	199,011	
AI servers - training	234,791	369,793	506,206	
AI servers - high power	180,205	205,168	251,146	
AI servers - full racks (Nvidia and AMD)	54,586	164,626	255,060	
AI servers - inferencing	29,820	36,481	48,432	
HPC	9,710	10,105	10,256	
YoY	**71%**	**40%**	**26%**	
New vs. Old				
Global server revenues (US$m)	**15,958**	**45,955**	**62,777**	
General servers	14,376	9,026	12,339	
AI servers - training	1,880	34,361	47,712	
AI servers - high power	1,880	34,170	15,941	
AI servers - full racks (Nvidia and AMD)	-	191	31,771	
AI servers - inferencing	(88)	2,687	2,949	
HPC	(210)	(119)	(222)	
Global server revenues (US$m)	**4%**	**8%**	**8%**	
General servers	9%	5%	6%	
AI servers - training	1%	9%	9%	
AI servers - high power	1%	17%	6%	
AI servers - full racks (Nvidia and AMD)	0%	0%	12%	
AI servers - inferencing	0%	7%	6%	
HPC	-2%	-1%	-2%	

Source: Company data, Goldman Sachs Global Investment Research

Exhibit 9: Server TAM: Shipment revisions

Global server shipment	2025	2026E	2027E	2028E
New				
Global servers shipments (k units)				
General servers	14,350	14,855	15,199	15,644
AI servers - high power (8 GPU equiv.)	692	1,016	1,272	1,506
AI servers - full racks (Nvidia and AMD)	19	55	90	136
AI servers - inferencing	469	560	663	791
HPC	710	726	734	758
YoY				
General servers	14%	4%	2%	3%
AI servers - high power (8 GPU equiv.)	26%	47%	25%	18%
AI servers - full racks (Nvidia and AMD)		185%	64%	51%
AI servers - inferencing	1%	19%	18%	19%
HPC	4%	2%	1%	3%
Old				
Global servers shipments (k units)				
General servers	13,872	14,966	15,196	
AI servers - high power (8 GPU equiv.)	692	952	1,227	
AI servers - full racks (Nvidia and AMD)	19	55	80	
AI servers - inferencing	470	539	656	
HPC	715	733	743	
New vs. Old				
Global servers shipments (k units)				
General servers	478	(111)	4	
AI servers - high power (8 GPU equiv.)	1	64	45	
AI servers - full racks (Nvidia and AMD)	-	0	10	
AI servers - inferencing	(0)	22	7	
HPC	(6)	(7)	(9)	
Global servers shipments (k units)				
General servers	3%	-1%	0%	
AI servers - high power (8 GPU equiv.)	0%	7%	4%	
AI servers - full racks (Nvidia and AMD)	0%	0%	12%	
AI servers - inferencing	0%	4%	1%	
HPC	-1%	-1%	-1%	

Full racks: Nvidia: 144 GPU dies per rack; Others: 72 GPU modules per rack

Source: Company data, Goldman Sachs Global Investment Research

PCs: -10% / +2%/ +3% YoY in 2026E-28E

Global PCs market opportunity

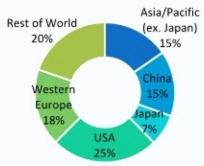
(Shipments in m units)

Our Bottom up method

Global PCs shipments = sum of shipments by brands

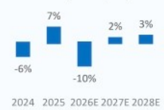
Global PCs revenues = **Desktops** ASP x shipments + **Notebooks** ASP x shipments + **Workstations** ASP x shipments

PCs shipments by region (2025)

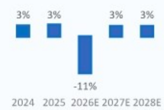


PCs shipments growth by region

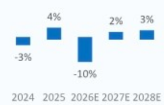
Asia/Pacific (ex. Japan) YoY



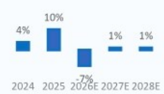
US YoY



China YoY



Western Europe YoY



Shipments by product	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
Global PCs shipments (m units)	64	69	76	76	62	59	68	69	260	264	285	257	261	268
Desktops	18	18	20	21	16	15	19	19	72	70	76	69	67	67
Notebooks	45	49	53	54	44	42	47	48	181	186	200	181	187	194
Workstations	2	2	2	2	2	2	2	2	7	8	8	7	7	8
YoY	6%	7%	9%	10%	-3%	-15%	-10%	-10%	-14%	1%	8%	-10%	2%	3%
Desktops	4%	7%	14%	13%	-8%	-15%	-9%	-9%	-16%	-4%	10%	-10%	-2%	0%
Notebooks	7%	7%	7%	9%	-1%	-15%	-11%	-11%	-13%	3%	8%	-10%	3%	4%
Workstations	13%	5%	4%	-11%	-6%	-14%	-8%	-8%	-9%	11%	2%	-9%	3%	3%
Mix	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Desktops	27%	26%	27%	27%	26%	26%	27%	27%	28%	26%	27%	27%	26%	25%
Notebooks	70%	71%	71%	71%	71%	71%	70%	70%	70%	71%	70%	70%	71%	72%
Workstations	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Revenues by product	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
Global PCs revenues (US$ m)	58,452	63,666	71,813	73,313	58,976	58,984	70,222	71,663	222,164	237,235	267,244	259,846	272,663	286,173
Desktops	12,335	12,827	14,491	14,338	11,836	11,829	14,422	14,270	49,894	49,329	53,992	52,358	52,749	55,852
Notebooks	42,070	46,638	52,877	54,983	43,179	43,239	51,356	53,402	157,767	172,151	196,568	191,176	202,721	212,504
Workstations	4,046	4,201	4,445	3,992	3,962	3,916	4,444	3,991	14,503	15,755	16,684	16,312	17,193	17,816
YoY	12%	14%	12%	12%	1%	-7%	-2%	-2%	-16%	7%	13%	-3%	5%	5%
Shipments by vendor	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
Global PCs shipments (m units)	64	69	76	76	62	59	68	69	260	264	285	257	261	268
Lenovo	15	17	19	18	15	13	19	18	59	62	70	65	66	67
HP	13	14	14	15	13	11	11	12	54	51	55	48	47	50
Dell	10	10	9	11	9	9	8	9	37	36	39	35	36	37
Apple	6	6	7	7	6	6	7	7	22	23	26	26	27	28
ASUS	4	5	6	5	4	4	5	4	17	18	20	17	18	19
Samsung	2	2	2	2	2	2	2	2	8	8	8	7	7	7
Microsoft	0	0	0	0	0	0	0	0	2	1	1	1	1	1
LG	0	0	0	0	0	0	0	0	1	1	1	1	1	1
Xiaomi	0	0	0	(0)	0	0	0	(0)	1	1	1	1	1	1
Others	14	14	18	18	12	13	15	16	60	63	64	56	57	58
YoY	6%	7%	9%	10%	-3%	-15%	-10%	-10%	-14%	1%	8%	-10%	2%	3%
Global market share	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lenovo	24%	25%	26%	24%	24%	23%	28%	27%	23%	23%	24%	25%	25%	25%
HP	20%	20%	18%	20%	21%	19%	16%	18%	21%	19%	19%	19%	18%	19%
Dell	15%	14%	12%	14%	15%	15%	12%	13%	14%	14%	14%	14%	14%	14%
Apple	9%	9%	9%	9%	10%	11%	10%	10%	8%	9%	9%	10%	10%	10%
ASUS	6%	7%	8%	6%	7%	7%	7%	6%	6%	7%	7%	7%	7%	7%
Samsung	3%	3%	3%	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Microsoft	1%	0%	0%	0%	1%	1%	0%	1%	1%	1%	0%	1%	1%	1%
LG	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Xiaomi	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Others	22%	21%	23%	24%	20%	22%	23%	23%	23%	24%	23%	22%	22%	22%
ASP	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
Global PC ASP (US$)	915	924	951	960	953	1,008	1,036	1,045	854	900	939	1,012	1,044	1,066
YoY	6%	7%	3%	2%	4%	9%	9%	9%	-2%	5%	4%	8%	3%	2%
AI PCs	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
AI PC shipment (m units)	18	22	29	35	33	33	41	43		52	103	150	187	219
YoY		81%	57%	61%	88%	53%	42%	23%			99%	46%	24%	17%
Penetration	28%	32%	38%	45%	54%	57%	60%	62%		20%	36%	59%	72%	81%
AI PC revenues (US$ m)	20,341	25,573	30,226	38,071	33,506	37,576	44,611	48,030		63,383	114,211	163,724	205,718	239,818
YoY		61%	42%	45%	65%	47%	48%	26%			80%	43%	26%	17%
Penetration	35%	40%	42%	52%	57%	64%	64%	67%		27%	43%	63%	75%	84%
Gaming PCs	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
Gaming PC shipment (m units)	7	7	8	8	6	6	7	7		28	31	26	28	31
YoY	8%	14%	12%	9%	-6%	-21%	-15%	-13%			11%	-14%	8%	9%
Penetration	10%	11%	11%	10%	10%	10%	11%	10%		10%	11%	10%	11%	12%
Gaming PC revenues (US$ m)	10,436	11,855	13,401	12,505	10,435	10,364	12,587	11,898		40,502	48,197	45,284	51,031	56,591
YoY	17%	24%	19%	17%	0%	-13%	-6%	-5%			19%	-6%	13%	11%
Penetration	18%	19%	19%	17%	18%	18%	18%	17%		17%	18%	17%	19%	20%
Shipments by markets	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
Global PCs shipments (m units)	62	67	74	74	60	57	66	67	253	256	277	250	254	261
Consumer PCs	27	29	36	35	24	26	31	31	118	118	127	111	114	117
Commercial PCs	35	38	38	39	37	31	35	36	135	137	150	138	140	144
YoY	6%	7%	9%	10%	-3%	-15%	-10%	-10%	-14%	1%	8%	-10%	2%	3%
Consumer PCs	4%	9%	8%	7%	-12%	-12%	-12%	-12%	-15%	0%	7%	-12%	3%	3%
Commercial PCs	8%	6%	10%	13%	4%	-17%	-8%	-8%	-13%	2%	9%	-8%	1%	3%
Mix	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Consumer PCs	43%	44%	48%	47%	39%	45%	47%	46%	47%	46%	46%	45%	45%	45%
Commercial PCs	57%	56%	52%	53%	61%	55%	53%	54%	53%	54%	54%	55%	55%	55%
Shipments by region	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
Asia/Pacific (ex. Japan)	9	10	13	10	9	9	12	9	42	40	43	38	39	40
China	9	10	11	12	8	8	10	11	41	40	42	38	39	40
Japan	5	5	5	6	4	4	5	5	12	14	20	19	19	19
USA	16	18	17	17	15	15	15	15	64	66	68	61	63	65
Western Europe	11	12	13	14	11	10	12	13	44	45	49	46	46	47
Rest of World	12	13	14	16	12	10	13	14	50	51	55	48	48	50
YoY														
Asia/Pacific (ex. Japan)	-6%	2%	14%	16%	-3%	-12%	-12%	-12%	-21%	-6%	7%	-10%	2%	3%
China	6%	12%	2%	-1%	-5%	-17%	-10%	-8%	-15%	-3%	4%	-10%	2%	3%
Japan	36%	55%	47%	50%	-3%	-10%	-8%	-8%	-3%	14%	47%	-7%	2%	2%
USA	15%	1%	0%	0%	-3%	-15%	-12%	-12%	-13%	3%	3%	-11%	3%	3%
Western Europe	3%	8%	11%	15%	-3%	-10%	-8%	-8%	-14%	4%	10%	-7%	1%	1%
Rest of World	0%	6%	9%	14%	-3%	-22%	-10%	-12%	-9%	1%	7%	-12%	0%	4%

Shipments by markets do not include workstations.

Source: Company data, Goldman Sachs Global Investment Research

Smartphones: Shipments -6% / +2% YoY in 2026E / 27E; Foldable phones at 45m / 74m in 2026 / 27E

Global Smartphone market opportunity

(Shipments in m units)
(Revenues in m USD)

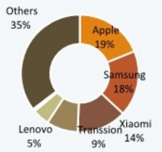
Our Bottom up method

Global smartphone shipments = sum of shipment by brand

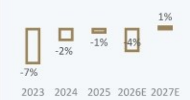
Global smartphone revenues = sum of revenues by brand

Global smartphone revenues = shipments x ASP

Smartphone shipments by brands (2024)

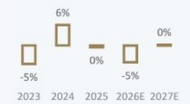


Developed markets YoY

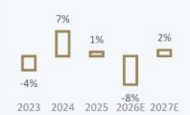


US YoY

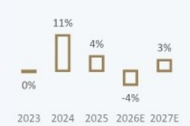
China YoY



BRICs YoY



Rest of emerging mkt YoY



Shipments by vendor	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E
Global shipments	**301**	**296**	**326**	**336**	**284**	**278**	**303**	**323**	**1,164**	**1,236**	**1,260**	**1,187**	**1,212**
Apple	59	48	59	81	60	49	56	75	234	233	248	240	254
Samsung	61	58	61	52	59	54	57	54	226	224	233	225	227
Xiaomi	42	42	43	38	38	40	41	40	146	168	166	158	162
Transsion	21	24	29	27	18	20	26	24	95	107	101	88	97
Lenovo	14	14	16	15	12	12	13	14	47	58	60	50	57
ZTE	2	2	2	2	2	2	2	2	6	7	7	7	7
Sony	0	1	1	1	0	1	1	1	2	1	2	2	2
HTC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
Asus	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0
Others	103	107	114	120	96	100	107	113	409	437	444	416	405
Shipments YoY	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E
Global	**0%**	**1%**	**4%**	**2%**	**-6%**	**-6%**	**-7%**	**-4%**	**-3%**	**6%**	**2%**	**-6%**	**2%**
Apple	12%	5%	4%	5%	1%	3%	-6%	-7%	4%	-1%	6%	-3%	6%
Samsung	2%	7%	6%	1%	-4%	-7%	-6%	4%	-14%	-1%	4%	-3%	1%
Xiaomi	3%	0%	1%	-10%	-10%	-7%	-5%	4%	-5%	16%	-2%	-5%	2%
Transsion	-26%	-6%	13%	-2%	-15%	-15%	-10%	-10%	31%	13%	-6%	-12%	10%
Lenovo	6%	5%	5%	-1%	-13%	-18%	-22%	-9%	4%	23%	4%	-16%	14%
ZTE	6%	26%	-11%	-11%	1%	1%	1%	1%	3%	28%	0%	1%	1%
Sony	-42%	65%	58%	137%	-10%	-10%	-10%	-10%	-38%	-32%	50%	-10%	-11%
HTC	69%	33%	21%	28%	-39%	0%	0%	0%	27%	-45%	36%	-9%	0%
Asus	-30%	-45%	-51%	-15%	-36%	9%	116%	-13%	-33%	-18%	-33%	-2%	1%
Others	0%	-2%	1%	7%	-7%	-6%	-6%	-6%	-7%	7%	2%	-6%	-3%
Shipments market share	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E
Apple	20%	16%	18%	24%	21%	18%	18%	23%	20%	19%	20%	20%	21%
Samsung	20%	20%	19%	16%	21%	19%	19%	17%	19%	18%	18%	19%	19%
Xiaomi	14%	14%	13%	11%	13%	14%	14%	12%	13%	14%	13%	13%	13%
Transsion	7%	8%	9%	8%	6%	7%	9%	7%	8%	9%	8%	7%	8%
Lenovo	5%	5%	5%	5%	4%	4%	4%	4%	4%	5%	5%	4%	5%
ZTE	1%	1%	1%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%
Sony	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
HTC	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Asus	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Others	34%	36%	35%	36%	34%	36%	35%	35%	35%	35%	35%	35%	33%
Shipments by price band	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E
Premium (Above US$600)	29%	24%	28%	35%	31%	25%	30%	36%	28%	27%	29%	31%	31%
Mid-end (US$200-600)	29%	32%	29%	26%	29%	32%	28%	27%	31%	29%	29%	29%	29%
Entry level (Below US$200)	42%	44%	43%	39%	40%	43%	42%	37%	42%	44%	42%	40%	40%
Revenus by vendor	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E
Global revenues	**136,300**	**121,818**	**143,444**	**170,516**	**145,781**	**117,099**	**145,091**	**173,336**	**520,767**	**535,569**	**572,077**	**581,307**	**614,526**
Apple	59,814	49,072	61,388	95,279	66,881	50,944	65,539	99,702	244,908	243,856	265,553	283,066	305,900
Samsung	29,415	25,178	29,045	18,131	34,735	20,098	28,647	17,684	102,181	97,604	101,770	101,164	106,273
Xiaomi	10,041	9,307	10,091	9,054	9,068	9,396	10,253	9,959	32,183	36,477	38,493	38,676	41,188
Transsion	2,424	2,946	3,417	3,703	2,691	3,073	3,380	3,669	11,493	12,615	12,490	12,813	14,925
Lenovo	3,452	3,597	3,915	3,863	3,022	3,555	3,640	3,950	11,608	13,894	14,828	14,167	16,573
ZTE	260	310	316	288	260	310	316	288	1,089	1,104	1,175	1,175	1,175
Sony	116	265	107	356	205	467	189	626	1,219	893	844	1,487	1,363
HTC	4	4	2	6	2	4	2	5	27	16	16	14	13
Asus	69	40	20	62	42	42	42	51	317	283	191	176	170
Others	30,704	31,098	35,142	39,774	28,874	29,210	33,083	37,401	115,741	128,826	136,718	128,569	126,946
Revenues by price band	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E
Premium (Above US$600)	67%	60%	66%	73%	66%	66%	69%	75%	65%	65%	67%	69%	70%
Mid-end (US$200-600)	22%	27%	22%	18%	24%	22%	20%	17%	22%	22%	22%	21%	20%
Entry level (Below US$200)	12%	13%	12%	9%	10%	13%	11%	8%	12%	13%	11%	10%	10%
Shipments by region	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E
Global shipments	**301**	**296**	**326**	**336**	**284**	**278**	**303**	**323**	**1,164**	**1,236**	**1,260**	**1,187**	**1,212**
Developed markets	**62**	**56**	**67**	**82**	**60**	**54**	**64**	**78**	**276**	**270**	**268**	**256**	**257**
USA	30	25	33	41	28	23	31	39	131	128	128	122	122
Western Europe	24	23	24	29	23	22	23	28	106	102	100	96	97
BRICs	**124**	**125**	**135**	**135**	**110**	**113**	**126**	**129**	**479**	**512**	**518**	**478**	**486**
India	33	38	48	38	28	32	41	35	146	151	156	136	142
China	72	69	68	76	65	65	68	74	271	286	285	272	272
Rest of emerging markets	**115**	**116**	**123**	**119**	**114**	**111**	**113**	**115**	**409**	**454**	**474**	**454**	**469**
Shipments YoY	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E
Global	**0%**	**1%**	**4%**	**2%**	**-6%**	**-6%**	**-7%**	**-4%**	**-3%**	**6%**	**2%**	**-6%**	**2%**
Developed markets	**-4%**	**-2%**	**1%**	**1%**	**-4%**	**-4%**	**-4%**	**-5%**	**-7%**	**-2%**	**-1%**	**-4%**	**1%**
USA	-3%	-1%	2%	2%	-5%	-5%	-5%	-5%	-7%	-2%	0%	-5%	0%
Western Europe	-5%	-3%	-1%	-1%	-4%	-4%	-4%	-4%	-6%	-3%	-2%	-4%	1%
BRICs	**0%**	**1%**	**3%**	**1%**	**-11%**	**-9%**	**-7%**	**-4%**	**-4%**	**7%**	**1%**	**-8%**	**2%**
India	-5%	8%	6%	3%	-15%	-15%	-15%	-8%	1%	4%	3%	-13%	4%
China	3%	-4%	0%	-1%	-10%	-6%	-1%	-2%	-5%	6%	0%	-5%	0%
Rest of emerging markets	**3%**	**4%**	**6%**	**5%**	**-1%**	**-4%**	**-9%**	**-3%**	**0%**	**11%**	**4%**	**-4%**	**3%**
Shipments market share	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E
Global	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Developed markets	**21%**	**19%**	**21%**	**24%**	**21%**	**19%**	**21%**	**24%**	**24%**	**22%**	**21%**	**22%**	**21%**
USA	10%	8%	10%	12%	10%	8%	10%	12%	11%	10%	10%	10%	10%
Western Europe	8%	8%	7%	9%	8%	8%	8%	9%	9%	8%	8%	8%	8%
BRICs	**41%**	**42%**	**41%**	**40%**	**39%**	**41%**	**41%**	**40%**	**41%**	**41%**	**41%**	**40%**	**40%**
India	11%	13%	15%	11%	10%	11%	13%	11%	12%	12%	12%	11%	12%
China	24%	23%	21%	23%	23%	23%	22%	23%	23%	23%	23%	23%	22%
Rest of emerging markets	**38%**	**39%**	**38%**	**35%**	**40%**	**40%**	**37%**	**36%**	**35%**	**37%**	**38%**	**38%**	**39%**
Foldable phones	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E
Shipment	**4.2**	**3.3**	**8.0**	**10.3**	**6.0**	**6.5**	**15.1**	**17.5**	**18.2**	**18.7**	**25.8**	**45.1**	**74.3**
Penetration rate	1.4%	1.1%	2.5%	3.1%	2.1%	2.3%	5.0%	5.4%	1.6%	1.5%	2.0%	3.8%	6.1%
Xiaomi	0.1	0.1	0.1	0.2	0.3	0.2	0.5	0.3	0.3	0.8	0.6	1.3	1.8
Transsion	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.9	1.5
Lenovo	0.8	0.6	0.6	0.5	0.4	1.2	1.0	0.8	1.2	2.7	2.5	3.4	5.7
Samsung	0.5	0.4	4.8	3.0	1.0	0.7	4.5	3.2	10.0	6.4	8.6	9.4	13.5
Apple	-	-	-	-	-	-	4.5	8.4	-	-	-	12.9	33.8
Others	2.8	2.2	2.5	6.6	4.1	4.1	4.4	4.6	6.5	8.7	14.0	17.2	18.0

Source: Company data, Goldman Sachs Global Investment Research

Disclosure Appendix

Reg AC

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