Goldman Sachs Research

Equity Research

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Global Server: Raising both AI and General servers; better mix and higher memory costs drive CSP spending

Allen Chang
+852-2978-2930 | allen.k.chang@gs.com
Goldman Sachs (Asia) L.L.C.

Verena Jeng
+852-2978-1681 | verena.jeng@gs.com
Goldman Sachs (Asia) L.L.C.

James Schneider, Ph.D.
+1(212)357-2929 | jim.schneider@gs.com
Goldman Sachs & Co. LLC

Michael Ng, CFA
+1(212)902-8618 | michael.ng@gs.com
Goldman Sachs & Co. LLC

Katherine Murphy
+1(212)902-1151 | katherine.a.murphy@gs.com
Goldman Sachs & Co. LLC

Ronald Keung, CFA
+852-2978-0856 | ronald.keung@gs.com
Goldman Sachs (Asia) L.L.C.

Giuni Lee
+82(2)3788-1177 | giuni.lee@gs.com
Goldman Sachs (Asia) L.L.C., Seoul Branch

Anmol Makkar
+1(212)357-1366 | anmol.makkar@gs.com
Goldman Sachs & Co. LLC

Daiki Takayama
+81(3)4587-9870 | daiki.takayama@gs.com
Goldman Sachs Japan Co., Ltd.

Ting Song
+852-2978-6466 | ting.song@gs.com
Goldman Sachs (Asia) L.L.C.

Yifan Hu
+852-2978-0996 | yifan.hu@gs.com
Goldman Sachs (Asia) L.L.C.

Zorayda Montemayor
+1(212)357-6403 | zorayda.montemayor@gs.com
Goldman Sachs & Co. LLC

Evelyn Yu
+886(2)2730-4187 | evelyn.yu@gs.com
Goldman Sachs (Asia) L.L.C., Taipei Branch

Ryan Huang, CFA
+886(2)2730-4084 | ryan.huang@gs.com
Goldman Sachs (Asia) L.L.C., Taipei Branch

We raise our global servers TAM to reflect the ramp-up of AI server racks, and higher memory costs driving CSP spending. We refresh our forecasts for (1) AI server racks (NVL72-equivalent), (2) AI servers (8-GPU equivalent), (3) General servers, (4) AI servers implied GPU vs. ASIC, and (5) leading US and China cloud capex. **We expect AI server rack (NVL72-equivalent) shipment (incl. Nvidia and AMD)** to reach 55k/ 105k/ 163k in 2026-28E, increasing by 16% / 20% in 2027 / 28E, reflecting our positive view on AI server racks, which carry more intense design and stronger GPU interconnection. **On ASIC AI servers,** we expect growing ASIC adoption, with ASICs accounting for 50%/ 52%/ 55% of AI chips in 2026-28E (vs. our previous estimates of 43% / 50% / 55% in 2026-28E). Our global AI server volume forecast implies demand for AI chips at 19m/ 27m/ 32m in 2026-28E, which increases from our last update due to our revised outlook on AI server racks (NVL72-equivalent) and AI servers (8-GPU equivalent) across ASIC and GPU base. We forecast a positive demand trend for GPU and ASIC platforms, and new AI servers based on new networking architectures from 2027 which we expect 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), Eoptolink (Optical connections), TSMC (foundry; on CL), MPI (probe cards), WinWay (sockets), Aspeed (fabless), and Hon Precision (FT handler).

Exhibit 1: AI servers implied GPU vs. ASIC volume

	2025	2026E	2027E	2028E
NEW				
AI server shipment (k units)				
Rack-level (NVL72)	19	55	105	163
8-GPU	1,178	1,858	2,403	2,558
Implied AI chips	10,800	18,847	26,750	32,214
YoY		*75%*	*42%*	*20%*
GPU	6,670	9,510	12,963	14,566
ASIC	4,130	9,337	13,787	17,649
Mix				
GPU	62%	50%	48%	45%
ASIC	38%	50%	52%	55%
OLD				
AI server shipment (k units)				
Rack-level (NVL72)	19	55	90	136
8-GPU	1,163	1,576	1,935	2,296
Implied AI chips	10,682	16,590	21,963	28,164
YoY		*55%*	*32%*	*28%*
GPU	6,670	9,447	11,050	12,576
ASIC	4,012	7,143	10,913	15,587
Mix				
GPU	62%	57%	50%	45%
ASIC	38%	43%	50%	55%
CHG				
AI server shipment (k units)				
Rack-level (NVL72)	0%	0%	16%	20%
8-GPU	1%	18%	24%	11%
Implied AI chips	1%	14%	22%	14%
GPU	0%	1%	17%	16%
ASIC	3%	31%	26%	13%

Source: Goldman Sachs Global Investment Research

Exhibit 2: Global servers value TAM revisions

	2026E	2027E	2028E
By product			
NEW			
Global server revenues (US$m)	**604,117**	**849,860**	**1,102,109**
General servers	189,132	221,573	245,210
AI server racks (NVL72)	166,673	336,140	561,402
AI servers (8-GPU)	248,312	292,147	295,497
YoY	**74%**	**41%**	**30%**
General servers	28%	17%	11%
AI server racks (NVL72)	209%	102%	67%
AI servers (8-GPU)	70%	18%	1%
OLD			
YoY	**45%**	**27%**	**29%**
General servers	15%	6%	6%
AI server racks (NVL72)	202%	74%	61%
AI servers (8-GPU)	30%	14%	16%
By vendors			
CHG			
Dell	26%	50%	55%
HP	17%	29%	29%
Inspur	12%	16%	19%
SMCI	-5%	-8%	-13%
Lenovo	10%	49%	62%
H3C / UNIS	24%	38%	49%
Gigabyte	25%	40%	46%
Hon Hai	0%	16%	15%
Quanta	17%	21%	15%
Wiwynn	0%	21%	9%

Source: Goldman Sachs Global Investment Research

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)

Global Server: Higher mix of rack-level AI servers; Introducing 2028 forecasts (Apr 17, 2026)

Servers: AI server racks +190%/+89%/+56% YoY in 2026-28E; General server volume +14%/ +6%/ +6% YoY in 2026-28E

Global Server market opportunity

(Shipments in k units/ k racks)

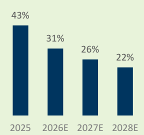
Our Bottom up method

Global server TAM =
General server + **AI** server racks (NVL72) + AI server (8-GPU)

General server

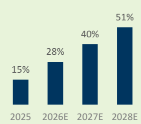
General server shipments = shipments of Top 6 server brands + ODM direct + others
General server revenues = shipments of each company x ASP of each company

General servers revenues mix

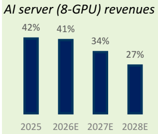


AI server
AI server shipments = shipments of Top 6 server brands + ODM direct +
others
AI server revenue = shipments x ASP

AI server racks revenues mix



AI server (8-GPU) revenues mix



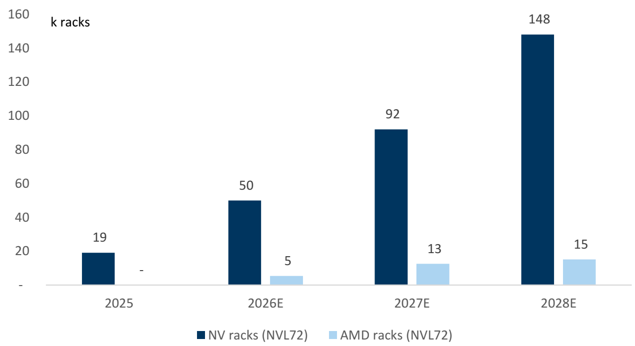
Revenues by type		1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	2025	2026E	2027E	2028E
Global server revenues	**US$ m**	**62,164**	**84,687**	**85,680**	**115,382**	**128,512**	**155,238**	**149,935**	**170,432**	**347,913**	**604,117**	**849,860**	**1,102,109**
General servers	US$ m	32,801	38,085	37,231	39,854	44,533	49,666	48,165	46,767	147,970	189,132	221,573	245,210
AI server racks (NVL72)	US$ m	4,268	8,464	15,804	25,380	26,983	44,831	37,867	56,993	53,916	166,673	336,140	561,402
AI server training (8-GPU)	US$ m	19,792	32,860	27,316	43,286	47,134	51,440	52,727	53,865	123,255	205,166	215,799	219,395
AI server inferencing (8-GPU)	US$ m	5,304	5,278	5,329	6,862	9,862	9,301	11,175	12,807	22,772	43,146	76,347	76,102
Mix		**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2025**	**2026E**	**2027E**	**2028E**
Total	**%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
General servers	%	53%	45%	43%	35%	35%	32%	32%	27%	43%	31%	26%	22%
AI server racks (NVL72)	%	7%	10%	18%	22%	21%	29%	25%	33%	15%	28%	40%	51%
AI server training (8-GPU)	%	32%	39%	32%	38%	37%	33%	35%	32%	35%	34%	25%	20%
AI server inferencing (8-GPU)	%	9%	6%	6%	6%	8%	6%	7%	8%	7%	7%	9%	7%
Revenues YoY		**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2025**	**2026E**	**2027E**	**2028E**
Total	**%**					**107%**	**83%**	**75%**	**48%**		**74%**	**41%**	**30%**
General servers	%					36%	30%	29%	17%		28%	17%	11%
AI server racks (NVL72)	%					532%	430%	140%	125%		209%	102%	67%
AI server training (8-GPU)	%					138%	57%	93%	24%		66%	5%	2%
AI server inferencing (8-GPU)	%					86%	76%	110%	87%		89%	77%	0%
Revenues QoQ		**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2025**	**2026E**	**2027E**	**2028E**
Total	**%**		**36%**	**1%**	**35%**	**11%**	**21%**	**-3%**	**14%**				
General servers	%		16%	-2%	7%	12%	12%	-3%	-3%				
AI server racks (NVL72)	%		98%	87%	61%	6%	66%	-16%	51%				
AI server training (8-GPU)	%		66%	-17%	58%	9%	9%	3%	2%				
AI server inferencing (8-GPU)	%		0%	1%	29%	44%	-6%	20%	15%				
Shipments by type	**Units**	**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2025**	**2026E**	**2027E**	**2028E**
Global server shipments													
General servers	k units	3,619	3,887	3,642	3,904	4,158	4,345	4,326	4,260	15,053	17,088	18,053	19,053
AI server racks (NVL72)	k racks	2	3	6	9	9	15	12	19	19	55	105	163
AI server training (8-GPU)	k units	156	221	209	268	289	313	325	338	855	1,264	1,419	1,406
AI server inferencing (8-GPU)	k units	71	78	78	97	132	127	161	174	323	593	984	1,152
Shipments YoY		**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2025**	**2026E**	**2027E**	**2028E**
General servers	%					15%	12%	19%	9%		14%	6%	6%
AI server racks (NVL72)	%					511%	393%	121%	111%		190%	89%	56%
AI server training (8-GPU)	%					85%	41%	55%	26%		48%	12%	-1%
AI server inferencing (8-GPU)	%					87%	63%	107%	79%		84%	66%	17%
Shipments QoQ		**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2025**	**2026E**	**2027E**	**2028E**
General servers	%		7%	-6%	7%	6%	5%	0%	-2%				
AI server racks (NVL72)	%		100%	87%	61%	2%	61%	-16%	53%				
AI server training (8-GPU)	%		42%	-6%	28%	8%	8%	4%	4%				
AI server inferencing (8-GPU)	%		10%	0%	25%	37%	-4%	26%	8%				
Shipments by vendor		**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2025**	**2026E**	**2027E**	**2028E**
General server shipments	**k units**	**3,619**	**3,887**	**3,642**	**3,904**	**4,158**	**4,345**	**4,326**	**4,260**	**15,053**	**17,088**	**18,053**	**19,053**
Dell	k units	334	307	299	355	417	400	323	372	1,295	1,512	1,587	1,619
HP	k units	165	161	161	182	173	177	180	201	669	730	770	785
Super Micro	k units	156	173	134	130	165	135	135	142	592	578	557	579
Lenovo	k units	174	187	213	263	226	233	234	289	837	983	1,032	1,084
Gigabyte	k units	24	31	23	21	29	31	31	28	99	119	137	144
Quanta - ODM direct	k units	576	650	483	541	639	747	579	649	2,249	2,615	2,694	2,748
Hon Hai- ODM direct	k units	207	256	221	211	218	255	229	242	895	944	971	971
Wiwynn- ODM direct	k units	455	527	596	588	638	606	834	588	2,166	2,666	2,986	3,404
Others	k units	1,527	1,596	1,514	1,614	1,651	1,762	1,781	1,748	6,252	6,942	7,320	7,721
AI server - 8-GPU	**k units**	**227**	**299**	**287**	**365**	**421**	**440**	**485**	**512**	**1,178**	**1,858**	**2,403**	**2,558**
Dell	k units	9	33	28	44	65	77	72	73	113	285	377	432
HP	k units	3	6	4	3	3	8	10	7	16	27	29	34
Super Micro	k units	9	12	12	29	29	30	31	33	62	123	146	168
Lenovo	k units	16	10	11	13	34	18	25	27	51	104	190	278
Gigabyte	k units	4	9	5	5	7	10	6	7	23	30	34	37
Quanta - ODM direct	k units	19	20	24	34	29	28	41	39	97	137	141	145
Hon Hai- ODM direct	k units	51	60	56	57	90	91	96	96	224	373	504	431
Wiwynn- ODM direct	k units	21	41	52	54	45	45	46	57	168	193	231	277
Others	k units	94	109	95	127	120	134	158	174	425	586	750	756
AI server - full racks	**k racks ****	**2**	**3**	**6**	**9**	**9**	**15**	**12**	**19**	**19**	**55**	**105**	**163**
Dell	k racks	0	1	1	0	1	1	1	1	2	5	6	8
HP	k racks	0	0	0	0	0	0	0	0	0	0	0	0
Super Micro	k racks	0	0	0	0	0	0	0	0	1	2	4	5
Lenovo	k racks	-	-	-	-	0	0	0	0	-	0	2	3
Gigabyte	k racks	-	0	0	0	0	0	0	0	0	1	2	2
Quanta - ODM direct	k racks	1	1	1	1	3	6	2	3	4	13	17	22
Hon Hai- ODM direct	k racks	0	1	4	6	5	7	8	11	11	30	65	113
Wiwynn- ODM direct	k racks	-	-	-	-	-	-	-	2	-	2	8	7
Others	k racks	0	0	0	1	0	0	0	1	1	2	2	3

Source: Company data, Goldman Sachs Global Investment Research

Server TAM estimate revisions

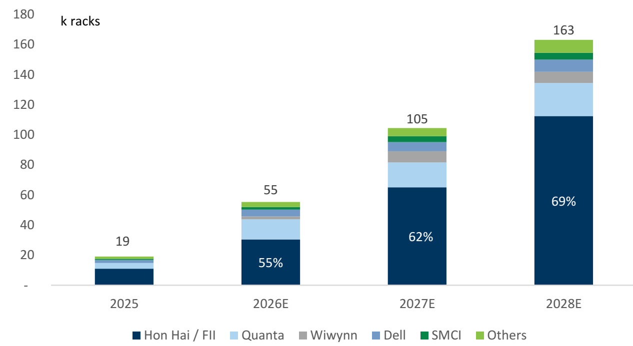
AI server racks: We raise our forecast for AI server racks powered by NVIDIA to 92k / 148k in 2027 / 28E, with our estimates being raised by 19% / 22% in 2027 / 28E, while keeping AI server racks powered by AMD largely unchanged at 5k / 13k / 15k in 2026-28E. With continuous specification upgrade, we expect the dollar content per AI server rack will continue to grow. Overall, we expect the AI server rack global value TAM to grow at 118% CAGR in 2025-28E to US$561bn, or 51% of the global server value TAM by 2028E. By vendor, we continue to expect global leading CSPs to be the major customers, with leading ODM direct players as the major suppliers. We expect Hon Hai / FII to maintain the leading market position among ODMs and with continuous specification upgrade driving its global market share from 55% in 2026E to 69% by 2028E.

Exhibit 3: AI server racks global shipment by chipset platforms



Source: Goldman Sachs Global Investment Research

Exhibit 4: AI server rack shipment by ODM / OEMs

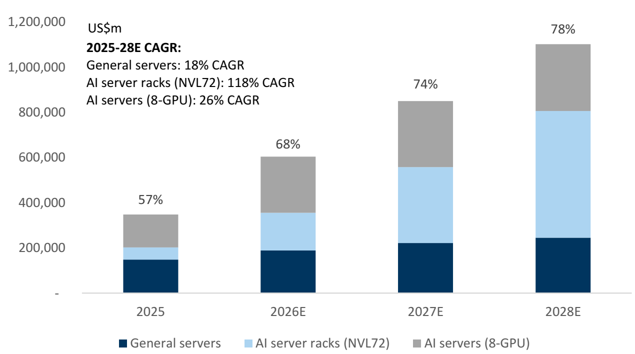


% in the chart indicates Hon Hai / FII global market share in AI server racks

Source: Goldman Sachs Global Investment Research

AI servers: We raise AI server (8-GPU) equivalent shipment by 18% / 24% / 11% in 2026-28E to 1.9m / 2.4m / 2.6m in 2026-28E, mainly driven by rising ASIC-based AI server demand. The custom-design provides ASIC-based AI servers optimized for AI computation with better efficiency, such as lower latency, or memory savings via reduced expensive read/write cycles. We continue to see new generation ASICs launched by global leading CSPs, supporting AI server growth: we expect the AI servers (8-GPU) global value TAM to grow at 26% CAGR in 2025-28E to US$295bn, or 27% of global server value TAM by 2028E.

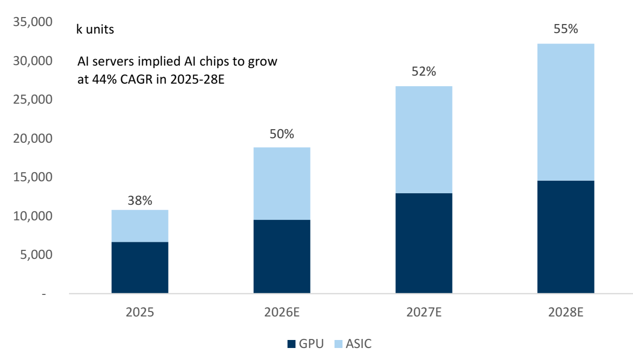
Exhibit 5: Global server value TAM



% in chart indicates AI server (8-GPU and NVL72) revenues mix

Source: Goldman Sachs Global Investment Research

Exhibit 6: AI servers (8-GPU and NVL72) implied AI chips

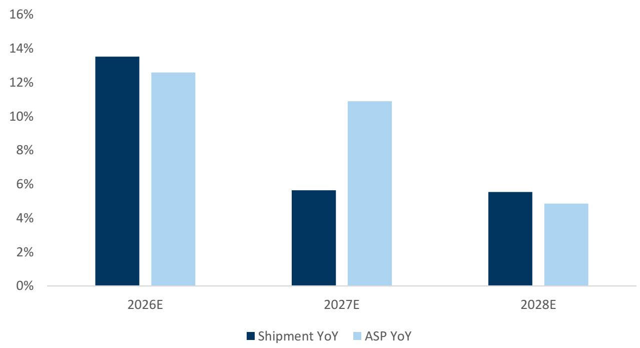


% in chart indicates ASIC shipment contribution to total AI chips

Source: Goldman Sachs Global Investment Research

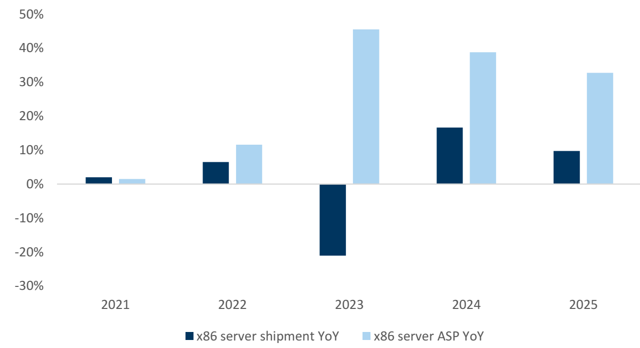
General servers: We raise general server revenue growth from +15% / +6% / +6% YoY in 2026-28E to +28% / +17% / +11% YoY in 2026-28E driven by high memory costs and ongoing specification upgrade driving AI workloads. Intel launches Intel Xeon 6+ processors in Computex 2026 (link) to facilitate Agentic AI: CPU servers are served as the control plane, driving system-level performance and efficiency under rising agentic AI workloads, while supporting data movement and sustained inferencing. We expect general servers' global value TAM to grow at 18% CAGR in 2025-28E to US$245bn, or 22% of global server value TAM by 2028E.

Exhibit 7: General server shipment vs. ASP YoY in 2026-28E



Source: Goldman Sachs Global Investment Research

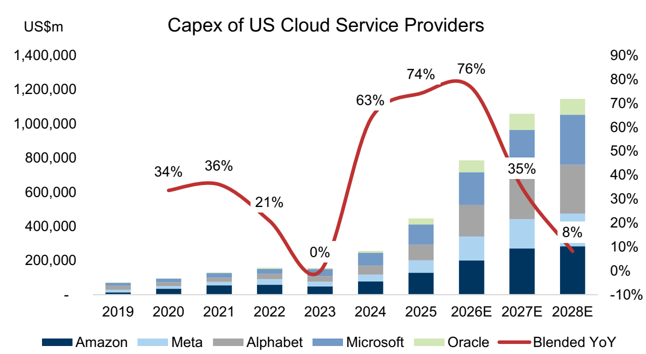
Exhibit 8: x86 server shipment vs. ASP YoY in 2021-25A



Source: IDC

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 76%/ 35%/ 8% YoY in 2026-28E, with our estimates being raised by 8% / 27% / 25% in 2026-28E to US$1,145bn by 2028E. Within the China internet space, we expect leading Chinese cloud platforms to grow capex by 80%/ 20%/ 18% YoY in 2026-28E, with our estimates being raised by 37% / 44% / 55% in 2026-28E. The strong increase in CSP capex reflects the high memory costs and growing demand on AI workloads. In terms of capex structure, we estimate chipsets (GPU, ASIC, CPU) remains the major contributors, along with memory (HBM), and followed by networking and other components (e.g. cooling, power, chassis, rail kits, etc.). Compared to global CSPs, we estimate China CSP spending on chipsets would be more diversified across GPU and ASICs considering various local fabless suppliers and customers' varying demand on AI scenarios / tasks. *Read more: Microsoft, Amazon, Meta, Alphabet, Oracle, Baba, Tencent, Baidu.*

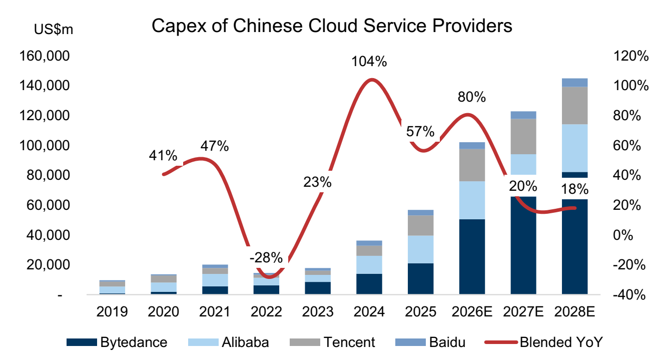
Exhibit 9: US CSP Capex trend



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

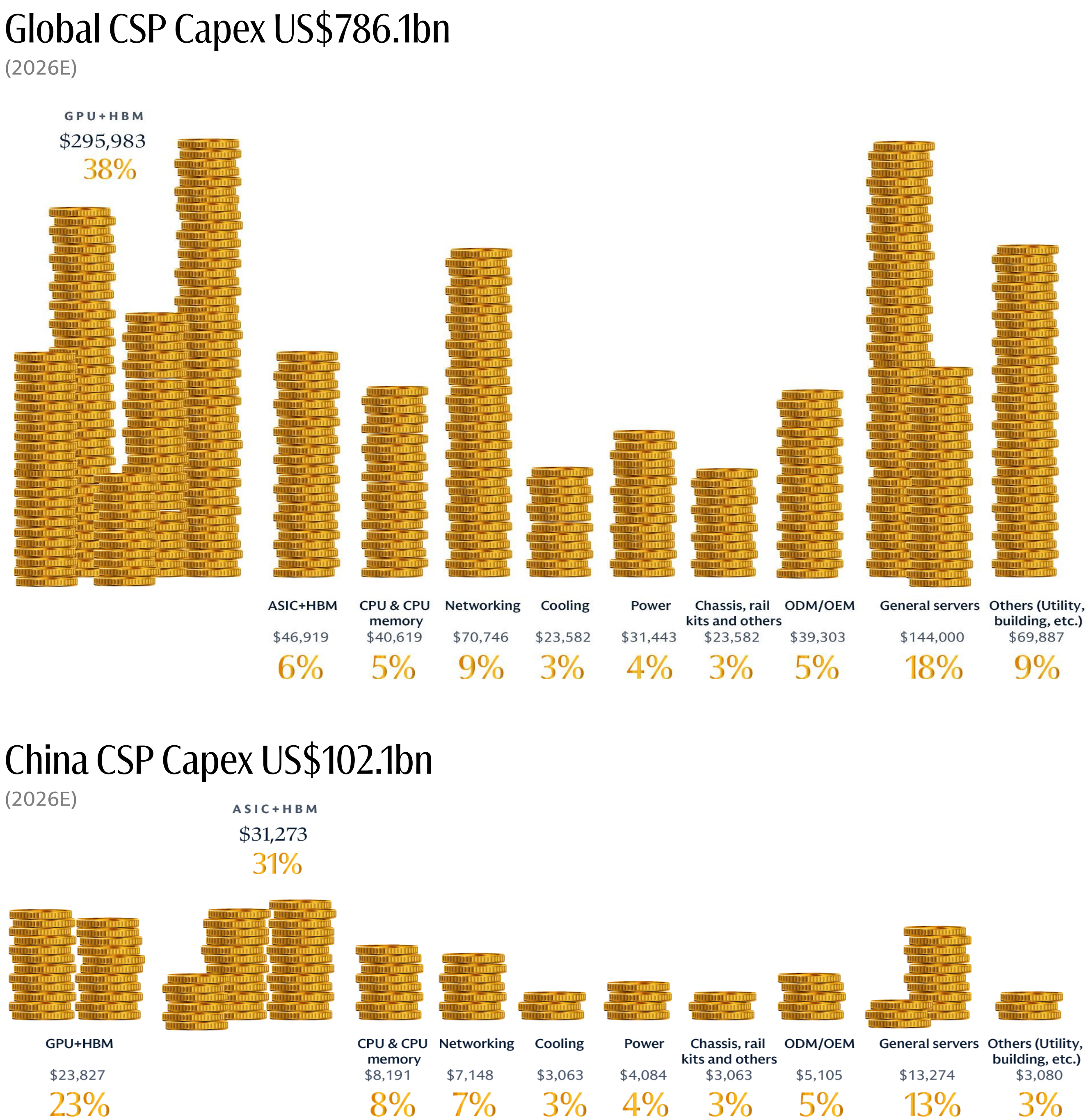
Exhibit 10: China CSP capex trend



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

Exhibit 11: CSP capex structure



Source: Goldman Sachs Global Investment Research

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

Global PCs market opportunity

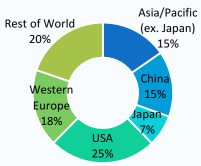
(Shipments in m units)

Our Bottom up method

Global PCs shipments = sum of shipments by brands

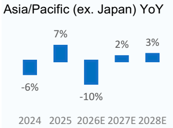
Global PCs revenues = **Desktops** ASP x shipments + **Notebooks** ASP x shipments + **Workstations** ASP x shipments

PCs shipments by region (2025)

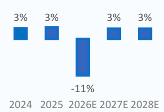


PCs shipments growth by region

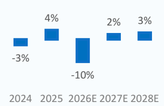
Asia/Pacific (ex. Japan) YoY



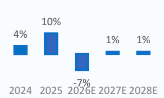
US YoY



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 -10% / +3%/ +1% YoY in 2026-28E

Global Smartphone market opportunity

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

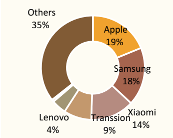
Our Bottom up method

Global smartphone shipments = sum of shipment by brand

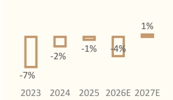
Global smartphone revenues = sum of revenues by brand

Global smartphone revenues = shipments x ASP

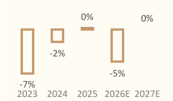
Smartphone shipments by brands (2024)



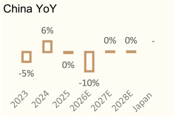
Developed markets YoY



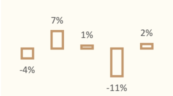
US YoY



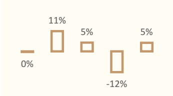
China YoY



BRICs YoY



Rest of emerging mkt YoY



Shipments by vendor	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	2023	2024	2025	2026E	2027E	2028E
Global shipments	303	297	326	338	294	269	284	293	1,164	1,237	1,264	1,140	1,170	1,182
Apple	59	48	60	85	61	53	57	76	234	233	252	246	257	262
Samsung	61	58	61	61	62	59	59	55	226	224	242	235	233	240
Xiaomi	42	39	39	35	34	34	34	33	146	168	155	135	136	140
Transsion	21	25	29	23	21	19	22	17	95	107	98	78	97	102
Lenovo	13	14	16	16	14	11	12	13	47	56	59	50	48	48
ZTE	2	2	2	2	2	2	2	2	6	7	9	9	9	9
Sony	0	0	0	0	0	0	0	0	2	1	1	1	1	1
HTC	0.0	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	0.0	0.1	0.1	0.1	0.1	0	0	0	0	0	0
Others	104	110	119	115	99	91	99	96	409	440	448	385	388	380
Shipments YoY	**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2023**	**2024**	**2025**	**2026E**	**2027E**	**2028E**
Global	1%	2%	4%	3%	-3%	-9%	-13%	-13%	-3%	6%	2%	-10%	3%	1%
Apple	12%	6%	4%	9%	3%	9%	-5%	-11%	4%	-1%	8%	-2%	5%	2%
Samsung	2%	7%	7%	18%	2%	1%	-4%	-10%	-14%	-1%	8%	-3%	-1%	3%
Xiaomi	3%	-8%	-8%	-18%	-19%	-13%	-13%	-5%	-5%	16%	-8%	-13%	0%	3%
Transsion	-26%	-2%	13%	-16%	-1%	-25%	-25%	-25%	31%	13%	-8%	-20%	24%	5%
Lenovo	2%	2%	5%	12%	6%	-21%	-23%	-21%	4%	20%	5%	-15%	-4%	0%
ZTE	46%	51%	14%	8%	-1%	-1%	-1%	-1%	3%	28%	27%	-1%	-1%	-1%
Sony	-42%	-22%	-66%	-15%	-21%	-21%	-21%	-21%	-38%	-32%	-38%	-21%	-5%	0%
HTC	69%	-6%	-50%	-44%	-62%	42%	141%	128%	27%	-45%	-13%	33%	7%	-5%
Asus	-30%	-45%	-51%	-75%	-36%	9%	116%	199%	-33%	-18%	-48%	26%	1%	0%
Others	0%	1%	4%	2%	-4%	-17%	-17%	-16%	-7%	8%	2%	-14%	1%	-2%
Shipments market share	**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2023**	**2024**	**2025**	**2026E**	**2027E**	**2028E**
Apple	20%	16%	18%	25%	21%	20%	20%	26%	20%	19%	20%	22%	22%	22%
Samsung	20%	20%	19%	18%	21%	22%	21%	19%	19%	18%	19%	21%	20%	20%
Xiaomi	14%	13%	12%	10%	12%	13%	12%	11%	13%	14%	12%	12%	12%	12%
Transsion	7%	8%	9%	7%	7%	7%	8%	6%	8%	9%	8%	7%	8%	9%
Lenovo	4%	5%	5%	5%	5%	4%	4%	4%	4%	5%	5%	4%	4%	4%
ZTE	1%	1%	1%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	1%
Sony	0%	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%	0%
Asus	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Others	34%	37%	36%	34%	34%	34%	35%	33%	35%	36%	35%	34%	33%	32%
Shipments by price band	**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2023**	**2024**	**2025**	**2026E**	**2027E**	**2028E**
Premium (Above US$600)	29%	24%	28%	34%	30%	26%	32%	40%	28%	27%	29%	32%	32%	34%
Mid-end (US$200-600)	30%	33%	29%	27%	31%	30%	23%	19%	31%	29%	29%	26%	26%	24%
Entry level (Below US$200)	42%	44%	43%	39%	39%	44%	45%	41%	42%	44%	42%	42%	41%	42%
Revenue by vendor	**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2023**	**2024**	**2025**	**2026E**	**2027E**	**2028E**
Global revenues	135,893	121,581	143,664	174,953	152,364	130,682	145,390	167,304	520,767	537,641	576,091	595,740	606,273	621,389
Apple	59,982	49,179	61,539	98,704	69,310	60,617	69,001	97,452	244,908	245,107	269,403	296,379	303,875	309,704
Samsung	28,658	24,514	29,064	23,470	31,309	26,328	28,039	22,080	102,181	97,604	105,705	107,757	104,557	109,984
Xiaomi	9,399	8,730	9,413	9,080	8,545	9,285	10,172	9,760	32,183	36,477	36,622	37,763	38,951	41,422
Transsion	2,424	2,946	3,417	2,629	2,848	2,712	2,816	2,170	11,493	12,615	11,415	10,546	13,757	15,403
Lenovo	3,187	3,469	3,725	4,193	3,916	3,108	3,088	3,318	11,608	13,661	14,574	13,430	13,307	14,433
ZTE	358	377	410	349	313	367	400	341	1,089	1,110	1,494	1,422	1,387	1,367
Sony	116	265	107	128	97	221	89	107	1,219	893	617	513	502	517
HTC	4	4	2	2	1	6	5	5	27	16	13	17	17	16
Asus	69	40	20	18	42	42	42	51	317	283	148	176	170	161
Others	31,696	32,058	35,967	36,379	35,983	27,996	31,737	32,020	115,741	129,876	136,101	127,737	129,749	128,381
Revenues by price band	**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2023**	**2024**	**2025**	**2026E**	**2027E**	**2028E**
Premium (Above US$600)	67%	60%	66%	71%	63%	59%	69%	78%	65%	65%	66%	67%	71%	76%
Mid-end (US$200-600)	21%	27%	22%	20%	28%	30%	21%	14%	22%	22%	22%	23%	19%	14%
Entry level (Below US$200)	12%	13%	12%	9%	10%	11%	11%	9%	12%	13%	11%	10%	10%	10%
Shipments by region	**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2023**	**2024**	**2025**	**2026E**	**2027E**	**2028E**
Global shipments	303	297	326	338	294	269	284	293	1,164	1,237	1,264	1,140	1,170	1,182
Developed markets	**62**	**56**	**67**	**82**	**60**	**54**	**64**	**78**	**276**	**270**	**268**	**256**	**257**	**259**
USA	30	25	33	41	28	23	31	39	131	128	128	122	122	122
Western Europe	24	23	24	29	23	22	23	28	106	102	100	96	97	98
BRICs	**124**	**125**	**135**	**135**	**115**	**107**	**119**	**121**	**479**	**512**	**518**	**462**	**470**	**472**
India	33	38	48	38	28	32	41	35	146	151	156	136	142	142
China	72	69	68	76	69	59	62	66	271	286	285	256	257	258
Rest of emerging markets	**116**	**117**	**124**	**121**	**120**	**109**	**101**	**93**	**409**	**456**	**478**	**422**	**443**	**451**
Shipments YoY	**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2023**	**2024**	**2025**	**2026E**	**2027E**	**2028E**
Global	1%	2%	4%	3%	-3%	-9%	-13%	-13%	-3%	6%	2%	-10%	3%	1%
Developed markets	**-4%**	**-2%**	**1%**	**1%**	**-4%**	**-4%**	**-4%**	**-5%**	**-7%**	**-2%**	**-1%**	**-4%**	**1%**	**1%**
USA	-3%	-1%	2%	2%	-5%	-5%	-5%	-5%	-7%	-2%	0%	-5%	0%	0%
Western Europe	-5%	-3%	-1%	-1%	-4%	-4%	-4%	-4%	-6%	-3%	-2%	-4%	1%	1%
BRICs	**0%**	**1%**	**3%**	**1%**	**-7%**	**-14%**	**-12%**	**-10%**	**-4%**	**7%**	**1%**	**-11%**	**2%**	**0%**
India	-5%	8%	6%	3%	-15%	-15%	-15%	-8%	1%	4%	3%	-13%	4%	0%
China	3%	-4%	0%	-1%	-4%	-14%	-10%	-13%	-5%	6%	0%	-10%	0%	0%
Rest of emerging markets	**3%**	**4%**	**6%**	**6%**	**3%**	**-7%**	**-19%**	**-23%**	**0%**	**11%**	**5%**	**-12%**	**5%**	**2%**
Shipments market share	**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2023**	**2024**	**2025**	**2026E**	**2027E**	**2028E**
Global	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Developed markets	**21%**	**19%**	**21%**	**24%**	**20%**	**20%**	**23%**	**27%**	**24%**	**22%**	**21%**	**22%**	**22%**	**22%**
USA	10%	8%	10%	12%	10%	9%	11%	13%	11%	10%	10%	11%	10%	10%
Western Europe	8%	8%	7%	9%	8%	8%	8%	9%	9%	8%	8%	8%	8%	8%
BRICs	**41%**	**42%**	**41%**	**40%**	**39%**	**40%**	**42%**	**41%**	**41%**	**41%**	**41%**	**41%**	**40%**	**40%**
India	11%	13%	15%	11%	9%	12%	14%	12%	12%	12%	12%	12%	12%	12%
China	24%	23%	21%	22%	23%	22%	22%	23%	23%	23%	23%	22%	22%	22%
Rest of emerging markets	**38%**	**39%**	**38%**	**36%**	**41%**	**40%**	**36%**	**32%**	**35%**	**37%**	**38%**	**37%**	**38%**	**38%**
Foldable phones	**1Q25**	**2Q25**	**3Q25**	**4Q25**	**1Q26**	**2Q26E**	**3Q26E**	**4Q26E**	**2023**	**2024**	**2025**	**2026E**	**2027E**	**2028E**
Shipment	**4.2**	**3.3**	**8.0**	**4.7**	**3.8**	**5.9**	**14.1**	**16.9**	**18.2**	**18.7**	**20.2**	**40.6**	**69.1**	**80.4**
Penetration rate	1.4%	1.1%	2.4%	1.4%	1.3%	2.2%	5.0%	5.8%	1.6%	1.5%	1.6%	3.6%	5.9%	6.8%
Xiaomi	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.8	0.5	0.6	0.8	1.1
Transsion	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.2	0.1	0.6	1.5	1.7
Lenovo	0.8	0.6	0.6	0.7	0.5	1.2	1.0	0.8	1.2	2.7	2.7	3.6	5.7	10.3
Samsung	0.5	0.4	4.8	1.4	0.8	0.6	4.0	1.8	10.0	6.4	7.0	7.2	8.3	10.0
Apple	-	-	-	-	-	-	4.6	9.5	-	-	-	14.1	34.4	37.2
Others	2.8	2.2	2.5	2.5	2.3	3.8	4.0	4.5	6.5	8.7	10.0	14.7	18.4	20.0

Source: Company data, Goldman Sachs Global Investment Research

Disclosure Appendix

Reg AC

We, Allen Chang, Verena Jeng, James Schneider, Ph.D., Michael Ng, CFA, Katherine Murphy, Ronald Keung, CFA, Giuni Lee, Anmol Makkar, Daiki Takayama, Ting Song, Yifan Hu, Zorayda Montemayor, Evelyn Yu and Ryan Huang, CFA, hereby certify that all of the views expressed in this report accurately reflect our personal views about the subject company or companies and its or their securities. We also certify that no part of our compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

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Contributing Authors: Allen Chang Goldman Sachs (Asia) L.L.C., Verena Jeng Goldman Sachs (Asia) L.L.C., James Schneider, Ph.D. Goldman Sachs & Co. LLC, Michael Ng, CFA Goldman Sachs & Co. LLC, Katherine Murphy Goldman Sachs & Co. LLC, Ronald Keung, CFA Goldman Sachs (Asia) L.L.C., Giuni Lee Goldman Sachs (Asia) L.L.C., Seoul Branch, Anmol Makkar Goldman Sachs & Co. LLC, Daiki Takayama Goldman Sachs Japan Co., Ltd., Ting Song Goldman Sachs (Asia) L.L.C., Yifan Hu Goldman Sachs (Asia) L.L.C., Zorayda Montemayor Goldman Sachs & Co. LLC, Evelyn Yu Goldman Sachs (Asia) L.L.C., Taipei Branch, Ryan Huang, CFA Goldman Sachs (Asia) L.L.C., Taipei Branch.

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