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Asia Tech Hardware

China Next Winners - Asia Tech: The push toward NPO and AI SuperPod


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This report is part of a series on China Next Winners in which we identify the next generation of industries and corporate winners in China.

China's NPO ecosystem has the key building blocks but remains more fragmented than TSMC's COUPE platform. Current domestic NPO demonstrations generally based on edge-coupled, MZM optical engines (OE) with external 100/200mW CW lasers, targeting c.3.2T bandwidth. Unlike pluggable transceivers, NPO must be customized for each GPU, NPU or switch ASIC, requiring co-design of electrical/SerDes interface, optical engine, FAU, PCB routing, socket design, and thermal mechanical package. Chinese suppliers in each part of value chain are validating and sampling products, with volume production targeted for 2H27.

Mapping China NPO supply chain: Innolight and TFC remain focus on overseas NPO/CPO opportunities, spanning PIC design/OE packaging and FAU supply, respectively. In contrast, Accelink and HG Geniune are targeting domestic NPO OE demand, while Lightelligence and Xphor are developing NPO PICs. Tower Semi remains one of the top SiPh foundry for many Chinese PIC designers, though local companies including CanSemi are expanding the SiPh production lines. The adoption of ELS should benefits laser source suppliers such as Yuanjie, packaging company including EugenLight and PM fiber suppliers.

China's First NPO SuperPoD — Huawei Atlas 960E. HiSilicon has demonstrated two NPO paths: a 3.2T VCSEL based optical engine for shorter reach, and a 7.2T NPO engine for Atlas 960E SuperPoD, an upgrade for tech stack on AI chip and SuperPoD on top of what they discussed in 2025. The 960E SuperPoD can scale to 4,096 NPUs, delivering 8 EFLOPS at FP8, with up to 1 petabyte of HBM capacity. The 5,500 NPO will replace 48,000 800G optical modules and cuts power consumption by over 550kW. This raises content demand for advanced logic and should benefit **SMIC (OP)** as the core foundry partner.

China's AI server market should accelerate as domestic AI chip supply improves, with Superpod adoption increasing rapidly. As China internet capex remain strong, domestic AI server shipment is set to recover in 2H26 as the market shifts to locally sourced chips. SuperPod architectures (e.g. Huawei Ascend 910C, Alibaba Panjiu AL128) that connect many accelerators within a single cluster, are enhancing system level performance and computing efficiency. We estimate the rack cost per accelerator for Huawei Ascend 910C at c.US$25k, compared with more than US$45k for NVIDIA GB200 rack.

The rise of China AI server market should benefit ABF substrate makers, switch vendors and server OEM/ODMs. Qunce (subsidiary of **Unimicron, OP**), AT&S and Leading (subsidiary of ZDT) together supply more than half of China's ABF substrate market. Relative to Taiwan ODMs, which mainly assemble NVIDIA racks, Chinese ODMs such as Huaqin have greater responsibility for rack integration, switching and sourcing of non-chip components. This increases their value capture and can support decdent gross margin despite the buy-sell model. **Luxshare's (OP)** remains focused on overseas AI server components, but China's expanding local AI server market provides an additional demand driver.

See the Disclosure Appendix of this report for required disclosures, analyst certifications and other important information. Alternatively, visit our Global Research Disclosure Website.

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BERNSTEIN TICKER TABLE

			18 Sep 2026 Closing	Price	TTM Rel.	Reported EPS				Reported P/E (x)		
Ticker	Rating	Cur	Price	Target	Perf.	Cur	2025A	2026E	2027E	2025A	2026E	2027E
2360.TT (Chroma ATE)	O	TWD	2,290.00	2,750.00	259.2%	TWD	27.50	41.39	63.61	83.3	55.3	36.0
2308.TT (Delta)	O	TWD	1,735.00	2,620.00	71.6%	TWD	23.09	39.35	57.98	75.1	44.1	29.9
3008.TT (Largan)	O	TWD	6,430.00	5,150.00	151.0%	TWD	158.08	187.55	208.38	40.7	34.3	30.9
002475.CH (Luxshare)	O	CNY	54.10	86.00	(26.1)%	CNY	2.26	2.64	3.48	23.9	20.5	15.5
2382.TT (Quanta)	U	TWD	343.00	250.00	(1.7)%	TWD	18.91	21.07	23.08	18.1	16.3	14.9
2382.HK (Sunny Optical)	O	HKD	67.05	94.00	(41.6)%	CNY	4.25	3.62	4.47	13.5	15.8	12.8
3037.TT (Unimicron)	O	TWD	981.00	990.00	503.9%	TWD	4.36	20.13	30.18	224.9	48.7	32.5
688256.CH (Cambricon)	O	CNY	1,113.14	1,340.00	(0.8)%	CNY	3.28	7.50	14.52	339.9	148.5	76.7
688041.CH (Hygon)	O	CNY	241.38	450.00	(21.5)%	CNY	1.10	2.04	3.59	219.4	118.1	67.2
688981.CH (SMIC-A)	O	CNY	122.00	220.00	(23.2)%	USD	0.09	0.13	0.17	209.3	143.3	105.9
981.HK (SMIC-H)	O	HKD	65.15	120.00	(30.4)%	USD	0.09	0.13	0.17	95.4	65.3	48.3
ASIAX			1,953.49									

O - Outperform, M - Market-Perform, U - Underperform, NR - Not Rated, CS - Coverage Suspended

Source: Bloomberg, Bernstein estimates and analysis.

INVESTMENT IMPLICATIONS

We rate Luxshare Precision Outperform, with PT = RMB86. (model)

We rate Sunny Optical Outperform, with PT = HK$94. (model)

We rate Unimicron Outperform, with PT = NT$990.00 (model)

We rate Chroma Outperform, with PT = NT$2,750.00. (model)

We rate Delta Outperform, with PT = NT$2,620.00.(model)

We rate Largan Precision Outperform, with PT = NT$5,150. (model)

We rate Quanta Computer Underperform, with PT = NT$250.00. (model)

We rate Hygon Outperform, with PT = RMB450. (model)

We rate Cambricon Outperform, with PT = RMB1,340. (model)

We rate SMIC Outperform, with PT = RMB220 / HKD120. (model)



DETAILS

EXHIBIT 1: **Summary of China AI capex beneficiaries**

Ticker	Company	Chinese name	Mkt Cap (US$M)	Forward P/E	Revenue (US$M)		Gross Margin %		EPS	
					2025	25-28 CAGR	2025	2028E	2025	25-28 CAGR
China NPO supply chain										
300308 CH Equity	Innolight	中际旭创	158,172	20x	5,323	100%	42%	47%	1.4	109%
300394 CH Equity	TFC	天孚通信	45,157	58x	719	70%	54%	52%	0.3	66%
601869 CH Equity	YOFC	长飞光纤	38,202	41x	1,984	45%	31%	48%	0.1	136%
688498 CH Equity	Yuanjie	源杰科技	33,128	173x	84	106%	58%	76%	0.2	146%
002281 CH Equity	Accelink	光迅科技	23,602	58x	1,660	47%	23%	25%	0.2	67%
000988 CH Equity	HGTech	华工科技	15,858	40x	1,998	38%	21%	22%	0.2	40%
601231 CH Equity	USI	环旭电子	9,410	21x	8,239	18%	9%	12%	0.1	37%
300782 CH Equity	Maxscend	卓胜微	6,143	8439x	519	18%	26%	27%	-0.1	n/a
688143 CH Equity	YOEC	长盈通	3,727	171x	55	45%	47%	51%	0.0	114%
1879 HK Equity	Lightelligence	曦智科技	3,159	n/a	15	159%	6%	43%	-6.4	n/a
Semiconductor										
688256 CH EQUITY	Cambricon	寒武纪	103,699	65x	904	117%	55%	54%	0.5	121%
688981 CH Equity	SMIC	中芯国际	92,893	95x	9,327	21%	21%	28%	0.1	48%
688041 CH Equity	Hygon	海光信息	80,401	88x	2,001	50%	58%	57%	0.2	65%
Server components										
3037 TT Equity	Unimicron	欣兴电子	48,375	28x	4,223	42%	14%	42%	0.1	149%
002916 CH Equity	Shennan Circuit	深南电路	38,967	34x	3,291	37%	28%	35%	0.7	57%
300476 CH Equity	Victory Giant	胜宏科技	35,373	16x	2,685	65%	35%	41%	0.7	70%
002938 CH Equity	Avary	鹏鼎控股	31,344	29x	5,449	28%	22%	27%	0.2	47%
4958 TT Equity	Zhen Ding	臻鼎科技	16,679	21x	5,873	27%	20%	30%	0.2	78%
002436 CH Equity	Fast Print	兴森科技	10,441	94x	1,001	30%	20%	30%	0.0	124%
AI server/switch ODM/OEM										
002475 CH Equity	Luxshare	立讯精密	59,926	15x	46,259	23%	12%	14%	0.3	32%
301165 CH Equity	Ruijie	锐捷网络	19,274	49x	1,993	46%	35%	29%	0.1	89%
603296 CH EQUITY	Huaqin	华勤技术	17,690	18x	23,862	24%	8%	8%	0.4	30%
000977 CH EQUITY	IEIT	浪潮信息	15,285	18x	22,936	30%	5%	7%	0.2	56%
000938 CH Equity	Unisplendour	紫光股份	13,987	25x	13,466	26%	15%	13%	0.1	50%

Bernstein covers Luxshare, Unimicron, Cambricon, SMIC, and Hygon; All the other companies are not covered
Source: Bloomberg, Bernstein analysis

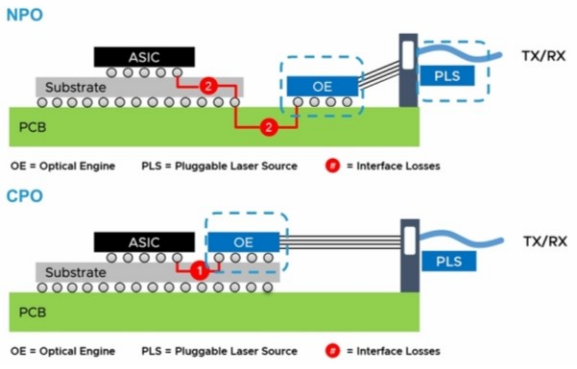
MAPPING THE NPO SUPPLY CHAIN IN CHINA

We've been writing about China's leaderships in optical transceivers and PCBs, and have discussed the emergence of CPO/NPO in global AI datacenter (Artificial Intelligence: Inside the War for AI Data Center Connectivity; Deep dive of communication optics (CPO) market). The CIOE 2026 highlighted NPO as an emerging new wave in China's AI-networking ecosystem.

Unlike TSMC's COUP platform that combines SiPh PIC, advanced node EIC, hybrid bonding and advanced packaging integrations, China has individual pieces but are generally more distributed. The NPO value chain spanning PIC vendors, FAU, OE packagers and system OEMs. Current domestic NPO demonstrations are predominantly based on edge-coupled, MZM-based optical engines and typically using external 100/200 mW CW lasers to support around 3.2T-class bandwidth. Compared to grating coupling and MRM that's chosen by Nvidia, this approach offers lower coupling loss, wider optical bandwidth and better thermal tolerance, but it requires a physically larger OE. It may also become increasingly constrained by chip edge "beachfront," FAU density and assembly yield as bandwidth scales beyond 3.2T.

Key technical choices and engineering hurdles remain. Unlike standardized pluggable transceivers, NPO is a platform specific system product: every GPU, NPU or switch ASIC requires co-design of the optical engine, electrical interface and SerDes adaptation, fiber routing, socket and mechanical/thermal package. The China market is therefore still testing multiple architectures. Most designs use external CW lasers (ELSFP module) to isolate the laser from the ASIC heat zone and retain field replaceability. HiSilicon's embedded-laser approach can simplify fiber routing and package integration, but raises laser thermal performance, lifetime reliability and repairability challenges. Key commercialization hurdles for China NPO sector exists on system level integration across OE attachment, socket reliability and PCB routing. Additionally, electrical performance can vary significantly across ports, so the ASIC, optical engines, PCB channel design and packaging must be jointly tuned to avoid uneven lane quality, highlighting the need for stronger and more uniform performance from domestic ASICs.

EXHIBIT 2: **NPO places the optical engine on the PCB**



Source: Broadcom

EXHIBIT 3: **Key difference of three major modulators**

Modulators	MZM	EAM	MRM
Size (μm^2)	~12,000	~250	100-200
Thermal stability	Yes (>50°C)	Yes (>50°C)	No (<1°C)
Power consumption	High	Medium	Low
Optical bandwidth	Optically broadband	30nm	Narrow band
WDM suitability	External Multiplexer/Demultiplexer needed	Medium Requires per-λ source + Multiplexer	Native WDM Each ring = 1 λ channel High density cascading

Source: Celestial AI, Bernstein analysis

EXHIBIT 4: **China NPO demonstrations generally based on edge-coupled**

	Edge coupling	Grating coupling
Fiber density	Only allow one row of fibers, limited density	Allow multiple row of fibers, more compact
Manufacturing difficulty	Complex, require additional cleaving and polishing process to create the coupling facet	Simple, and compatible with wafer-level testing
Coupling loss	Low	Relatively high
Operating bandwidth	Broad	Relatively narrow
Polarization sensitivity	Low	Relatively high
Representative players	GlobalFoundries; Broadcom (earlier CPO products); China NPO companies	Nvidia, TSMC

Source: Ansys, Tsinghua University and Bernstein analysis

EXHIBIT 5: **Comparison of NVIDIA's Spectrum-X NPO solution and Chinese vendors' NPO offerings**

	Nvidia Spectrum X NPO	Chinese Supplier NPO
Total data rate per package	3.2T	Huawei Hi-ONE: 7.2T Accelink: 3.2T
Lanes	16	Huawei Hi-ONE: 36 Accelink: 32
Data rate per lane	200Gb/s	Huawei Hi-ONE: 200Gb/s Accelink: 100Gb/s
Packaging	2.5D	Accelink: 2D
FAU coupling method	Grating coupling	Edge coupling
Modulators	Micro-Ring Modulator (MRM)	Mach-Zehnder Modulator (MZM)
Laser position	External	Mostly external Huawei Hi-ONE: Internal
Laser power	400 mW	100-200mW

Source: Company reports, Bernstein analysis

DECIPHER CHINA NPO SUPPLY CHAIN

Innolight and TFC remain focus on overseas market. Traditional optical transceiver companies such as **Innolight** are actively exploring NPO opportunities. As Innolight leads in SiPh 1.6T transceivers and have PIC design capabilities, management comments they are sending NPO samples to two overseas customers, and mass products is slated for 2H27. However, the market will remain small with a few million shipments next year due to yield ramp up, but is likely to jump to a few10M units by 2028 according to Innolight's view. Other optical transceiver companies including **Accelink** and **HG Genuine** are also developing their NPO solutions, but are focusing on domestic market. **TFC Optical** (300394 CH, not covered) has maintained a three-year partnership with NVIDIA in the development of NPO/CPO technology and currently participates in FAUs and ELS modules.

PIC design house are embracing the domestic NPO market. Lightelligence (Shanghai Xizhi Tech, 1879 HK, not covered) focuses on scale-up optical interconnects, including rack to rack links in domestic AI superpods. It generated RMB106M revenue in 2025 and 1H26 revenue was nearly three-folded YoY to RMB80M. This year the revenue was mainly driven by the deployment of several-thousand-GPU cluster powered by LightSphere X with OCS PIC provided by Lightelligence. The project was jointly launched with Shanghai Electric, Biren and ZTE. The company has demonstrated its NPO samples that combined with ASIC chip from Centec (688702 CH, not covered) (news). Its NPO architecture is currently optimized for edge-coupled, MZM-based silicon photonics and is being qualified with domestic GPU and cloud customers. **Xphor** (pre-IPO) is a PIC design house supplying to 400G–1.6T transceiver makers. Its revenue size grew five folds to RMB 461M in 2025, with 90% of that comes from 400G and the rest from 800G and 1.6T. The company is expanding toward customized 3.2T NPO PICs.

The broader challenge for incumbents PIC suppliers in the pluggable transceiver market is that NPO shifts the integration boundary from a standalone module to an ASIC-adjacent optical engine. This typically includes removal of the DSP, tighter PIC and driver/TIA integration, and more demanding laser, fiber-coupling and thermal requirements. PIC vendors must therefore work more closely with ASIC, system and cloud customers to prove link performance and reliability.

For PIC foundries, while Tower Semi remains the primary SiPh foundry partner, China local foundries are also emerging to capture the growing SiPh demand over the long term. Innolight has formed long term partnership with Tower on 100Gbps/line (400G/800G) and 200bps/line (1.6T) products (news), and also partnered with STMicroelectronics for its 300mm PIC100 platform. Despite that, local companies including CanSemi, Maxscend (300782 CH, not covered) are also building SiPh production lines the capture the opportunities.

The external laser source (ELS) in NPO should create a new domestic opportunity across CW lasers and precision ELS packaging. As lasers are disaggregated from the hot optical-engine area, suppliers need to deliver high-reliability CW laser chips and robust thermal management. **Yuanjie (688498 CH, not covered)** is the largest laser supplier in China, ranking among the global top six laser suppliers. Its 70mW and 100mW CW lasers are in mass production, while 120mW, 300mW and 400mW products are under development for CPO/NPO applications. Meanwhile, **EugenLight, under USI (601231 CH, not covered)**

and backed by ASE, is emerging as a packaging beneficiary through its ELSFP platform. Its latest UHP ELSFP module delivers >23dBm optical power per channel, equivalent to more than 200mW. Mass production is targeted for 1Q27.

The shift toward ELS architectures in NPO/CPO is creating new demand for polarization-maintaining (PM) fiber. As optical signals travel from the front-panel ELS to the optical engine (OE), polarization stability becomes critical. Unlike conventional single-mode fiber, PM fiber maintains signal integrity under temperature fluctuations and mechanical stress. PM fiber carries a materially higher ASP than standard single-mode fiber and has a relatively concentrated qualified supplier base. This creates an opportunity for Chinese specialty fiber suppliers, including **YOFC (601869 CH & 6869 HK), YOEC (688143 CH), Hengtong (600487 CH), and FiberHome (600498 CH, all not covered)**. Beyond domestic NPO demand, Chinese suppliers could also benefit if Corning (GLW US, not covered) broadens PM-fiber sourcing beyond its established manufacturing partnership with Fujikura (5803 JP, not covered).

Huawei (HiSilicon Optoelectronics) is developing NPO primarily for optical scale-up links its Ascend SuperPod systems. At CIOE 2026, HiSilicon demonstrated two NPO paths: a 3.2T VCSEL-based optical engine for shorter-reach, and a 7.2T SiPh NPO engine based on 36×200G lanes for higher bandwidth SuperPod. Huawei controls the core architecture including the ASIC/NPU interface, SerDes, oRFIC/EIC and optical engine design, but is building an external ecosystem for components and manufacturing through its OPEN NPO MSA. At 2026 Huawei Connect, the company unveiled the Atlas 960E SuperPoD that leverages 5500 7.2T optical engines that replaces 48K 800G optical modules.

EXHIBIT 6: **The global transceivers market is dominated by Chinese players**

Top 10 Global Transceiver Vendors

Rank	2018	2022	2024	2025
1	Finisar (II-VI)	II-VI & Innolight (tie)	Innolight	Innolight
2	Innolight		Coherent (II-VI)	Eoptolink
3	Hisense	Cisco (Acacia)	Eoptolink	Coherent (II-VI)
4	Accelink	Huawei (HiSilicon)	Huawei (HiSilicon)	Accelink
5	FOIT (Avago)	Accelink	Cisco (Acacia)	Molex
6	Lumentum/Oclaro	Hisense	Accelink	Ligent (Hisense)
7	Acacia	Eoptolink	Hisense	HG Genuine
8	Intel	HGGenuine	Marvell	Source Photonics
9	AOI	Intel	HGGenuine	Lumentum
10	Sumimoto	Source Photonics	Source Photonics*	CIG

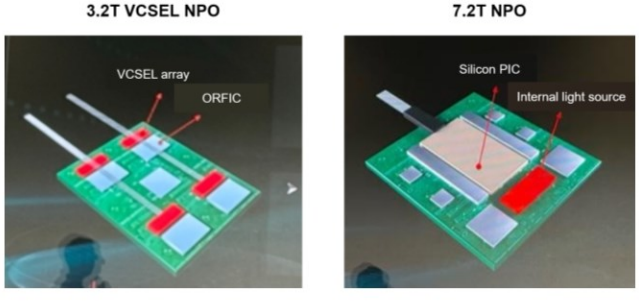
In mid-2025, Chinese company Dongshan Precision (002384 CH, not covered) announced to acquire 100% stakes in Source Photonics; Names highlighed are from China
Source: LightCounting, Bernstein ananlysis

EXHIBIT 7: **Technology spec of 3.2t NPO from Accelink**

Dimension	Specification
Architecture	32×100G architecture, compliant with OIF standard requirements.
Package Size	Module dimensions: 22.5mm × 35.1mm.
Connection Method	Connects via standard LGA interface; optical engine and main chip are deployed in a decoupled manner.
Chip Solution	Optical Side (PIC): High-density channel transceiver integrated silicon photonics chip. Electrical Side (EIC): Utilizes pure analog linear drive technology.
Packaging Process	Based on advanced high-precision 2D Flip-Chip bonding process.
Typical Power Consumption	~21W, significantly lower than DSP solutions of equivalent bandwidth.
Optical Performance	Transmitter: Typical TDECQ is only 1.9dB, compliant with IEEE 802.3bs DR4 standards. Receiver: Sensitivity better than -5dBm @1E-6.
Interoperability	Capable of interoperating with traditional DSP DR4 optical modules, supporting smooth evolution and hybrid networking in existing networks.

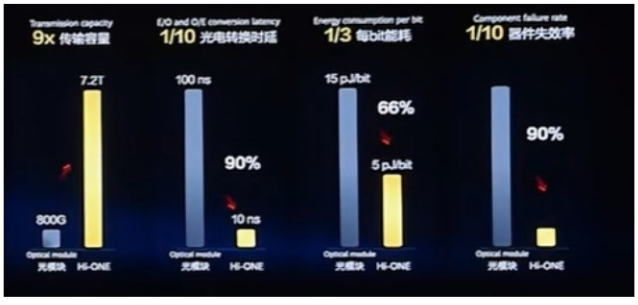
Source: Accelink, Bernstein analysis

EXHIBIT 8: **Huawei demonstrated its 3.2T VCSEL and 7.2T NPO with embedded laser source**



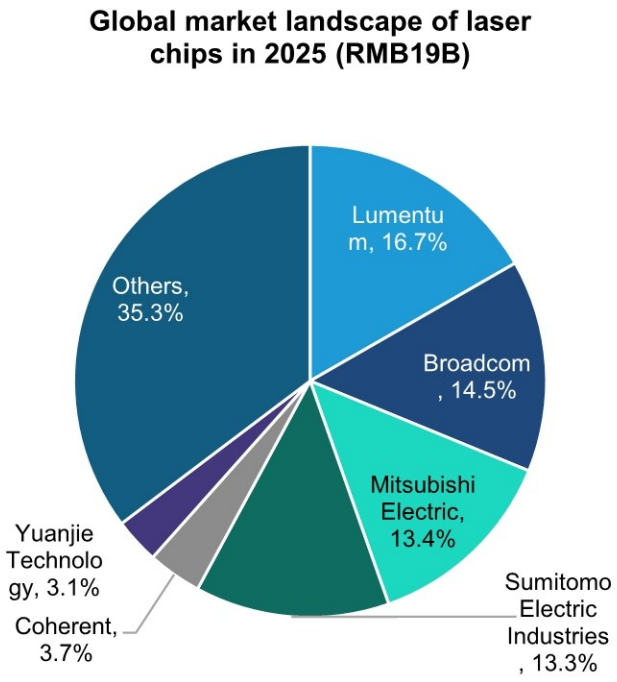
ORFIC = Optical Radio Frequency Integrated Circuits
Source: Huawei, Bernstein picture

EXHIBIT 9: **Compared to 800G optical transceiver, Huawei's 7.2T NPO cut power consumption by 2/3 and failure rate by 90%**



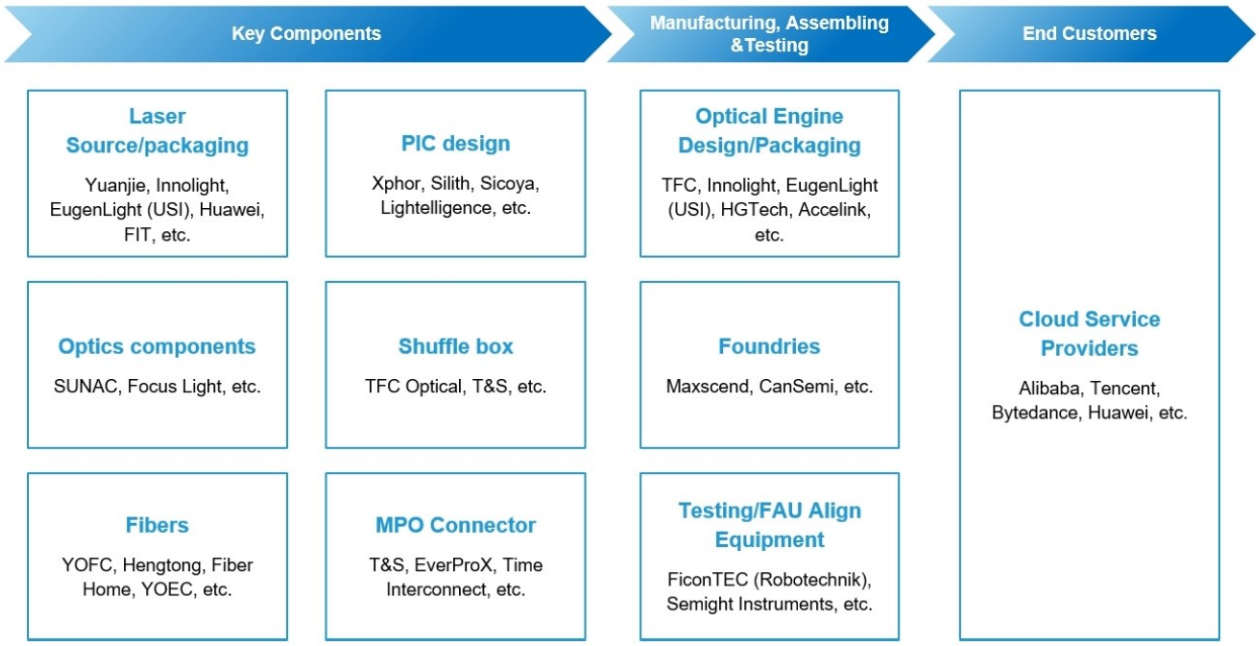
Source: Huawei

EXHIBIT 10: **Yuanjie is the largest laser supplier in China**



Source: Yuanjie Semi Prospectus and Bernstein analysis

EXHIBIT 11: **China's NPO supply chain**



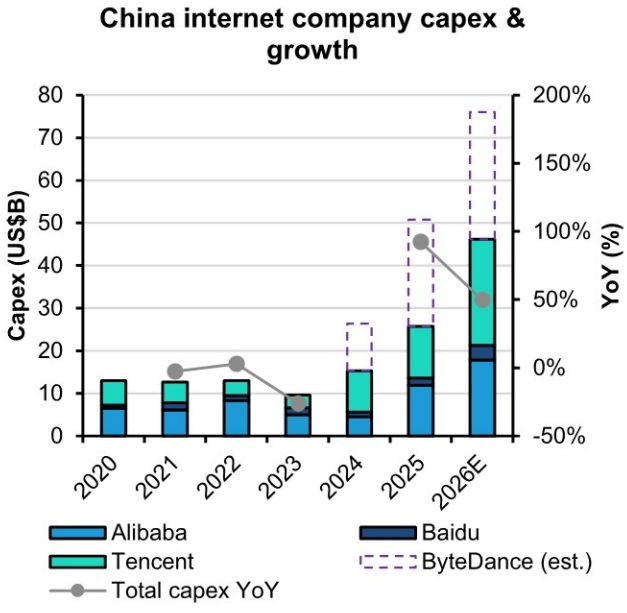
Bernstein covers Alibaba and Tencent; all the others are not covered
Source: Bernstein analysis

CHINA AI SERVER MARKET SHOULD RECOVER FROM OVERSEAS CHIP BAN AS LOCAL CHIPS CAPACITY RAMP UP

China internet capex remain strong. As the commercial opportunity around AI becomes increasingly clear, leading Chinese internet companies, including Alibaba, Tencent, Baidu, and ByteDance, have entered a new AI-driven investment cycle since 2024. The aggregate capex for Alibaba, Tencent and Baidu increased by c.70% in 2025, with consensus projecting another 80% increase in 2026. Meanwhile, news reports from AIBase and South China Morning Post suggested that ByteDance is investing even more aggressively, having more than doubled its capex in 2025 and planning to invest c.US$30bn in AI infrastructure.

Despite robust demand from Chinese CSPs, China's server shipments declined in 2025-26. This was primarily due to tighter U.S. export restrictions on NVIDIA GPUs following the escalation of trade tensions in early 2025, which constrained GPU availability for Chinese CSPs. Nevertheless, the continued maturation of China's domestic AI accelerator ecosystem, together with rapidly expanding advanced-node foundry capacity, should drive a robust growth in domestic AI server shipments going forward.

EXHIBIT 12: **China internet companies are increasing capex in AI/cloud infrastructure and applications**



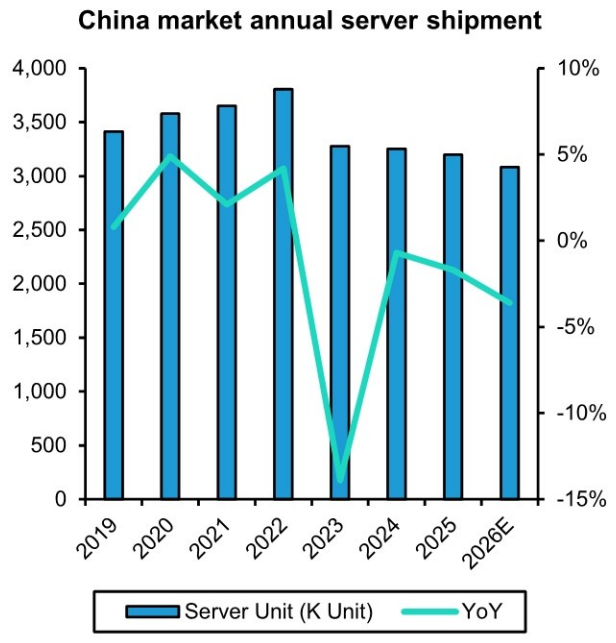
Notes: 1) 2025 capex from Bloomberg consensus; 2) The ByteDance number is from Reuters news report and is speculative
Source: Bloomberg, Bernstein analysis

EXHIBIT 13: **Chinese companies intend to increase AI/ cloud-related capex**

Company	AI/Cluod-related Capex	Details
Alibaba	Well above RMB 380B (US$52B) in 2025-27	Includes hardware investments such as expanding IDCs, upgrading servers and network equipment; R&D of next-gen AI models and applications; assisting the AI transformation of the entire business line.
Baidu	Part of ~US$3.5B total capex in 2026	Baidu is actively investing in cloud computing and AI infra and will build more GPU clusters in the future.
Tencent	Part of ~US$25B total capex in 2026	Will spend c.20% of revenue in 2026 on capex (cons: US$25Bn); AI would be a key focus of strategic investments
ByteDance	No disclosure; speculative RMB$200B (US$30B) in 2025	SCMP reported ByteDance plans RMB 200 billion AI capex, or roughly US$30 billion Bloomberg further reported ByteDance was weighing up to $70 billion in AI capital expenditure for 2026
China Mobile	Part of RMB137B (US$20B) in 2026	Communication network capex is expected to decline, while investments in computing and intelligent networks are set to increase significantly, growing by 62% and 20%, respectively. Computing and intelligent networks will account for more than 37% of total investment.
China Telecom	~RMB25.5Bn (US$3.8Bn) in 2026	Investment in computing infrastructure will increase 26% YoY to RMB25.5bn, with its share of total capex rising to 35%
China Unicom	~RMB17.5Bn (US$2.6Bn) in 2026	Intelligent computing capacity reached 45 EFLOPS in 2025; In 2026, computing power investments will account for more than 35% of total capex, and this proportion to continue rising over time

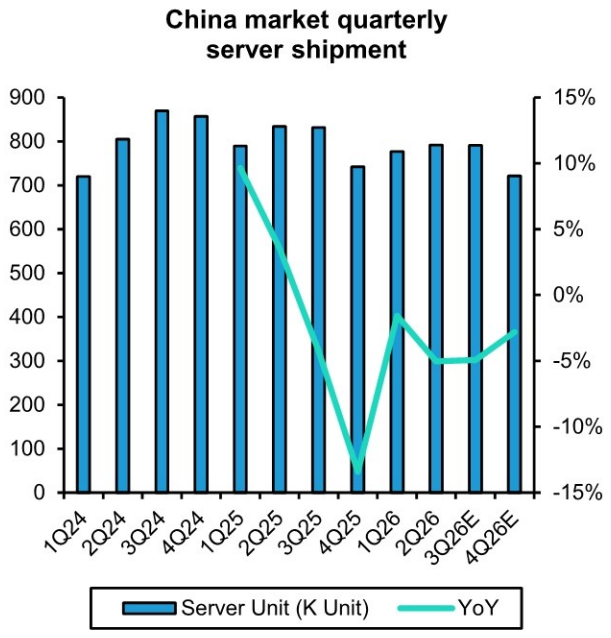
Source: Company reports, Bloomberg, Bernstein analysis

EXHIBIT 14: **2026 is a transition year for China's server market, particularly for AI servers, as volumes of domestic chips ramp up**



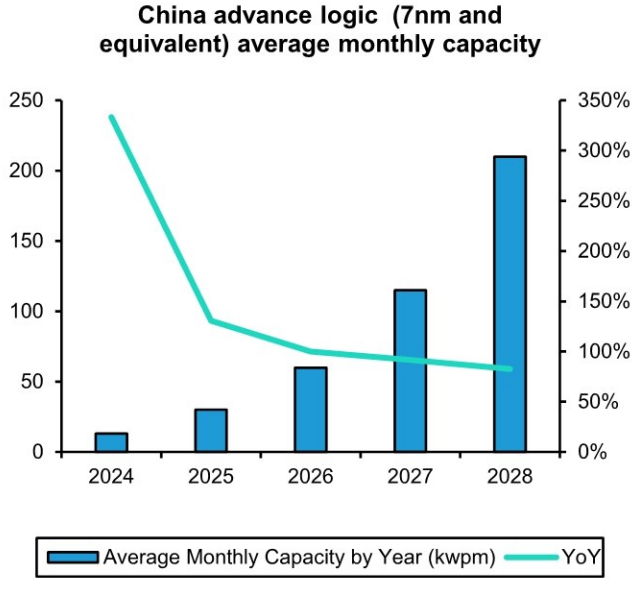
Source: Trendforce estimates and Bernstein analysis

EXHIBIT 15: **Quarterly server shipment saw a dip in 2H25 but should gradually recover going forward**



Source: Trendforce estimates and Bernstein analysis

EXHIBIT 16: **China's advanced-node foundry capacity is expanding rapidly**



Source: Bernstein analysis and estimates

THE PUSH TOWARDS AI SUPERPOD SHOULD BENEFIT TECH HARDWARE SUPPLY CHAIN

Superpods are emerging as the dominant architecture for China's domestic AI infrastructure, driven by chip-performance constraints, increasing parallel-computing requirements, and superior cost efficiency. 2026 marks the first year of growth in superpod shipments. As access to Nvidia GPUs remains restricted and domestic AI accelerators

lag in single-chip performance, Chinese CSPs are increasingly relying on superpod designs that connect more chips to deliver competitive compute performance. The rise of trillion-parameter models and MoE architectures has increased demand for efficient large-scale parallel processing, which is well address by superpods. Additionally, superpods improve GPU utilization by reducing communication bottlenecks, thereby lowering inference costs. For instance, Huawei's CloudMatrix 384 integrates 384 accelerators across 12 compute racks, each containing 32 accelerators, versus 72 GPUs in NVIDIA's GB200 NVL72 system. Following Huawei's launch of CloudMatrix 384 in 1H2025, Alibaba introduced its Panjiu A128 superpod systerm. Tencent and ByteDance have also been actively advancing superpod deployment initiatives. In comparison, Nvidia targets to scale up domine to 1,152 GPUs by 2028 in Feynman clusters

At Huawei Connect on 17 September, the company announced its Ascend 960E superpod, capable of connecting 4,096 accelerators in a single cluster by leverage Hi-ONE, 7.2T optical engine with embedded light source. The Atlas 960E SuperPoD uses 5,500 Hi-ONE engines, replacing 48K 800G optical transceiver ports, saving 550kW power consumptions.

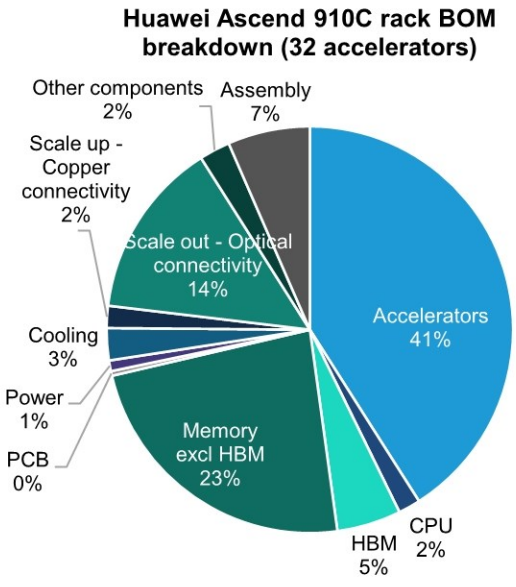
We estimate that Huawei Ascend 910C rack costs is c.US$815k, and the cost per accelerator is at c.US$25k, compared with more than US$45k for NVIDIA GB200 rack. Superpod deployments should primarily benefit interconnect component suppliers, switch vendors, server OEM/ODMs and ABF substrate makers. Huaqin, Inspur, xFusion and Ruijie are positioned to capture higher value through integrated rack scale solutions combining compute, switching, power and liquid cooling. At the component level, higher interconnect density increases demand for copper cables and optical modules, while greater rack power density drives volume growth and specification upgrades for liquid cooling and power systems. As domestic AI accelerator production ramps, local ABF substrate suppliers should also benefit longer term.

EXHIBIT 17: **Comparison of key specs of major super pods**

Item	Unit	Nvidida GB200 NVL72	Huaiwei Ascend 910C Cloudmatrix384	Alibaba Panjiu AL128 Superpod
Accelerator		GB200	Ascend 910C	Zhenwu M890
Scale up domain size (# of accelerators per rack × # of racks per pod)		72 (72 × 1)	384 (32 × 12)	128 (64 × 2)
BF16 dense PFLOPS	PFLOPS	180	300	N.A.
HBM Capacity	TB	13.8	49.2	18.4
HBM type		HBM3	HB2E	HBM3
HBM bandwidth	TB/s	576	1,129	629
Scale up bandwidth	Gb/s uni-di	64,800	134,400	25,600
Scale up connectivity		Copper, NVLink	Optical, UnifiedBus	Copper, N.A.
Scale out bandwidth	Gb/s uni-di	28,800	153,600	25,600-51,200
Scale out connectivity		Optical, InfiniBand / Ethernet	Optical, UBoE / RoCE (both based on Ethernet)	Optical, Alink
Systerm power	KW	145	559	350

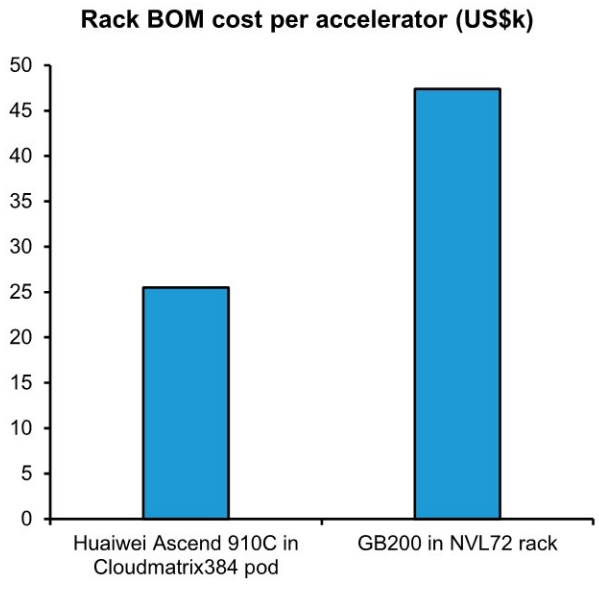
Source: Company disclosures, Bernstein analysis

EXHIBIT 18: **We estimate that Huawei Ascend 910C rack costs is c.US$815k, including optical transceiver that link racks into a SuperPod cluster**



Source: Company disclosures, Bernstein analysis and estimate

EXHIBIT 19: **Huawei Ascend 910C's unit cost is significantly lower than Nvidia's GB200**



Source: Company disclosures, Bernstein analysis

HARDWARE COMPONENT SUPPLIERS

SERVER AND SWITCH ODM/OEM SUPPLIERS

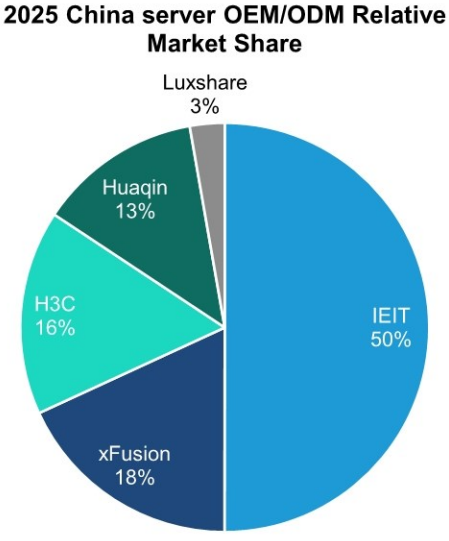
In the server ODM/OEM sector, OEM IEIT Systems (Inspur) (000977 CH, not covered), xFusion (pre-IPO) and ODM Huaqin (603296 CH, not covered) and Luxshare (Outperform) are key suppliers that support major Internet and cloud companies in China. **IEIT** is the largest server OEM in China. Its 2026H1 revenue reached RMB84bn (+5% YoY), while gross margin expanded by 4.2ppts and net profit grew 270% YoY to RMB3bn, indicating a meaningful improvement in product mix from domestic accelerator platform and scale of liquid cooling. Its latest Yuanbrain SD200 open SuperPod supports up to 64 domestic accelerators and a multi-host low latency interconnect. **xFusion**, spun out from Huawei's former x86 server business, benefits from Huawei-era engineering, supply chain and channel capabilities, and is particularly well positioned in telecom, government, SOE and enterprise customers seeking domestic CPU/accelerator alternatives. Despite rising memory cost, its 1H26 gross margin increased to 15.5%, from 8-10% in 2024-25, driven by strong domestic server market.

Huaqin is originally an ODM in 3C field, but has been ramping up server/switch ODM business in recent years. The company is the top two suppliers for Tencent and Alibaba with 30-40% market share, and have make breakthrough into Bytedance through switch last year and AI server this year. It's also the largest supplier for non-Huawei SuperPod in China driven by its closer R&D partnership with CSPs on different hardware components and deep knowledge in rack integration. The company guided to generate RMB 10B+ revenue from SuperPod this year, which is likely to more than double next year as CSPs are prioritizing rack form. What's worth noting is that comparing to Taiwan ODMs that focus on Nvidia rack, the buy-sell model is unlikely to create strong margin drag for Huaqin focusing on China superpod. Lower AI accelerator cost is one reason, another reason is that China CSP and chip suppliers delegate R&D for rack integration and purchasing decision of key components for non-chips to Huaqin, both of which brings value to Huaqin in AI server supply chain.

Finally, **Luxshare (OP)** grew its communication segment revenue by c.50% YoY in 1H26, reaching nearly 10% of group revenue, supported in part by domestic server assembly demand. Its AI infrastructure strategy focuses on overseas opportunities in high-speed copper connectivity, optical transceivers, liquid cooling and power management, while the expanding China AI-server market provides an additional growth driver (Luxshare 2Q26: resilient consumer business;12M-units optical transceiver capacity by mid-2027).

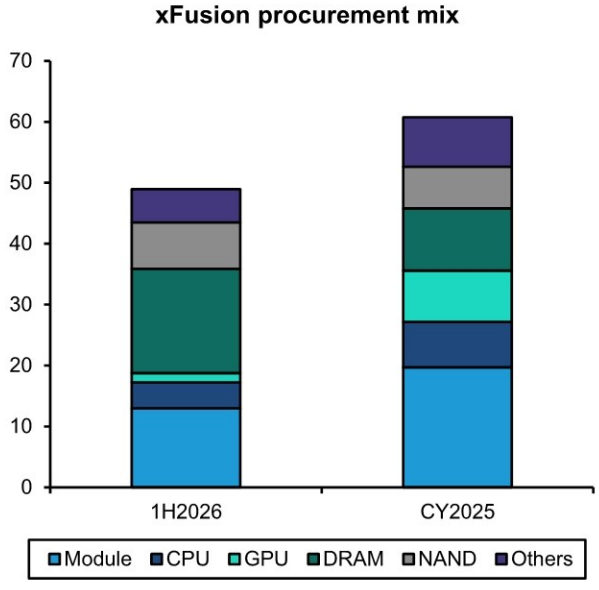
China's AI networking market is structurally more attractive for independent switch vendors than the overseas market. While Huawei relies on proprietary switching solutions, a more diverse domestic AI chip landscape has created a fertile environment for third party switch vendors such as **H3C** (Unisplendour, 000938 CH) **and Ruijie Networks** (301165 CH, both not covered). Superpods add a second growth vector through switch trays for intra-pod scale-up connectivity. The China switch market remains concentrated among Huawei, H3C and Ruijie, as product qualification requires multi-year co-development with AI chip vendors, CSPs and ODMs. H3C and Ruijie's established relationships with Tencent, Alibaba and ByteDance, together with access to Broadcom's switch ASIC ecosystem position them well in China AI opportunities.

EXHIBIT 20: **IEIT, xFusion and H3C are top China server OEM/ODM suppliers**



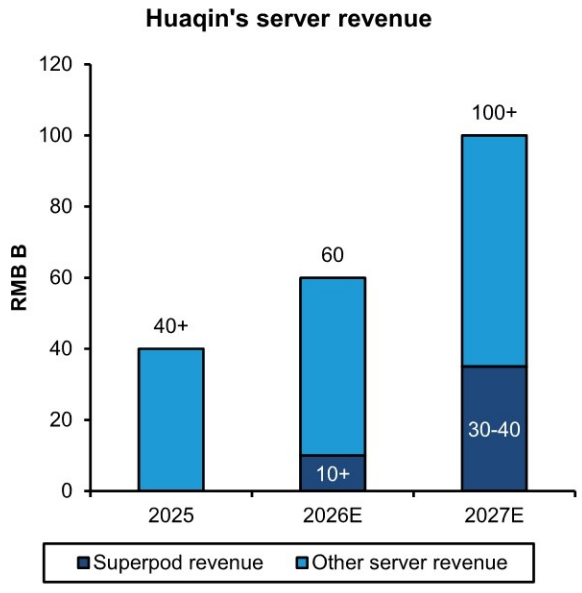
Source: Company reports, Bernstein analysis and estimate

EXHIBIT 21: **Procurement size for memory increase significantly in 1H26**



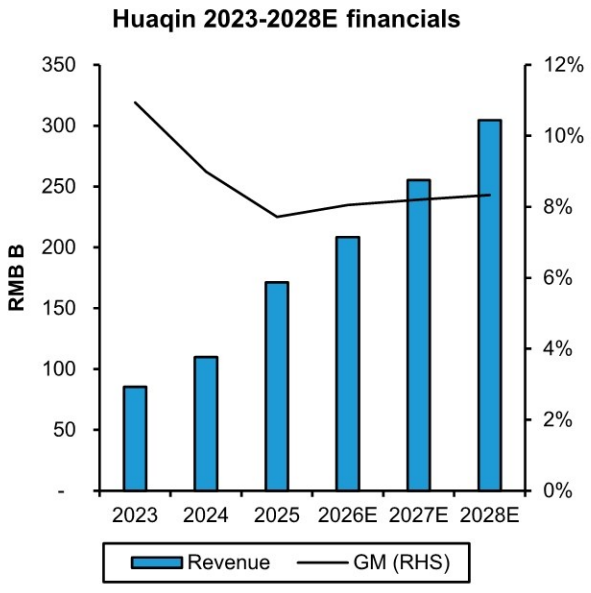
Source: xFusion Prospectus and Bernstein analysis

EXHIBIT 22: **Huaqin expects strong growth in the AI server during 2026-27, with superpods emerging as the key driver**



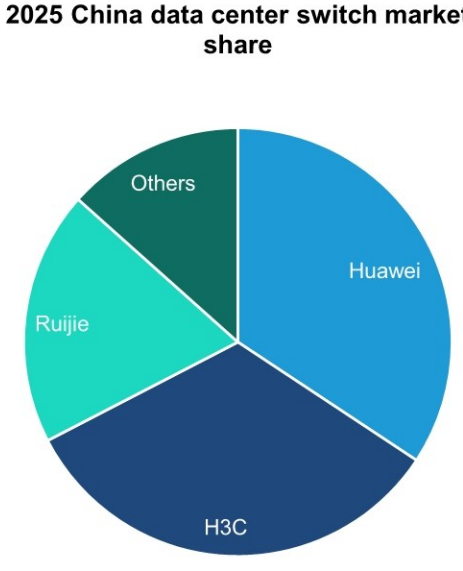
Source: Company disclosures and guidance, Berns

EXHIBIT 23: **Consensus forecasts imply c.20% revenue CAGR for Huaqin, with GPM expected to improve slightly**



Source: Bloomberg, Bernstein analysis

EXHIBIT 24: **China's switch market remains highly concentrated**



Source: IDC, Bernstein analysis

THE DOMESTIC ABF AND MSAP HDI MARKET

China's ABF substrate market is expanding rapidly, but supply remains dominated by overseas players due to the high technical and capital barriers of advanced substrate manufacturing. According to third party data, China ABF substrate market size was US$4B, 25% of the global market. **Suzhou Qunce (Unimicron, 3037 TT, Outperform), AT&S (ATS AV, not**

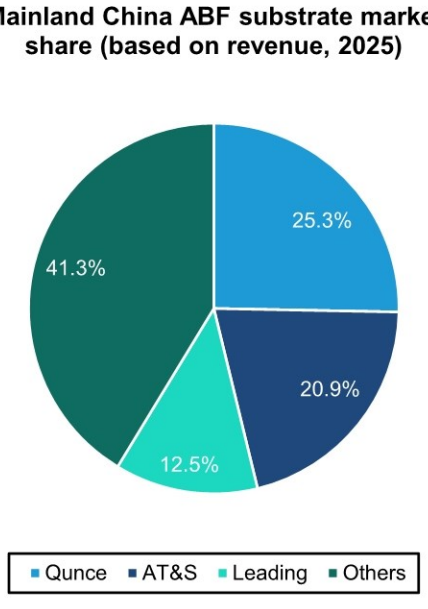
covered), and Leading Technology (Zhen Ding, 4958 TT, not covered) together account for more than 50% of domestic supply. Since 2025, Qunce and Leading have significantly accelerated ABF capacity expansion plans to meet the surging demand from both local and Taiwan-based OSAT customers. In particular, Leading's ABF business achieved break even in 1Q26, and its parent company ZDT guide IC substrate revenue to grow at least 80% YoY this year. Both of Qunce and Leading Tech have filed for listings on the HKEX.

ABF revenue contribution for domestic suppliers are still limited. **Shennan Circuits** (002916 CH) has achieved mass-production capability for products with up to 22 layers. The company generated c.RMB 200M ABF substrate revenue in 1H26 and has guided for c.RMB 600 million in full-year revenue. Nevertheless, the business remains loss-making. Meanwhile, **Fastprint Technology** (002436 CH, both not covered) generated revenue of RMB 27 million from ABF substrate last year (<1% of total revenue), and another 2% revenue contribution from optical transceiver PCB.

A new growth vector is emerging in mSAP-based HDI PCBs. The transition from 800G to 1.6T optical transceivers is driving broader adoption of mSAP technology, which offers superior routing density and finer line-space capabilities compared with traditional subtractive processes. In response, major PCB suppliers including **Avary (002938 CH) and VGT (300476 CH)** are actively expanding mSAP capacity.

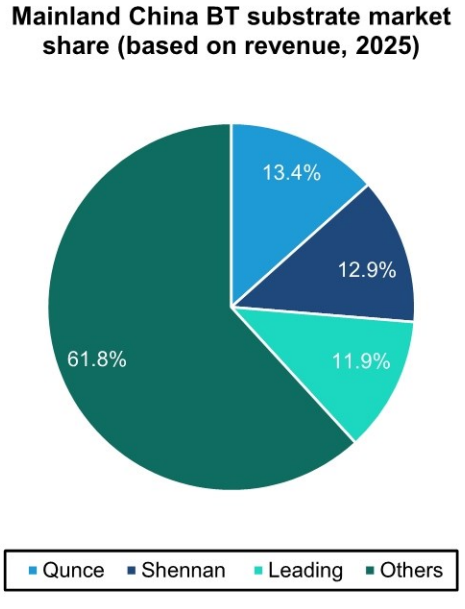
For more discussion on PCB technology & suppliers for overseas AI supply chain, please find details in 2Q26 PCB market update - revenue growth accelerates, profitability improves and Artificial Intelligence: Inside the War for AI Data Center Connectivity

EXHIBIT 25: **Local subsidiaries of foreign suppliers, such as Qunce (Unimicron), AT&S China, and Leading (Zhen Ding), dominate China ABF substrate market**



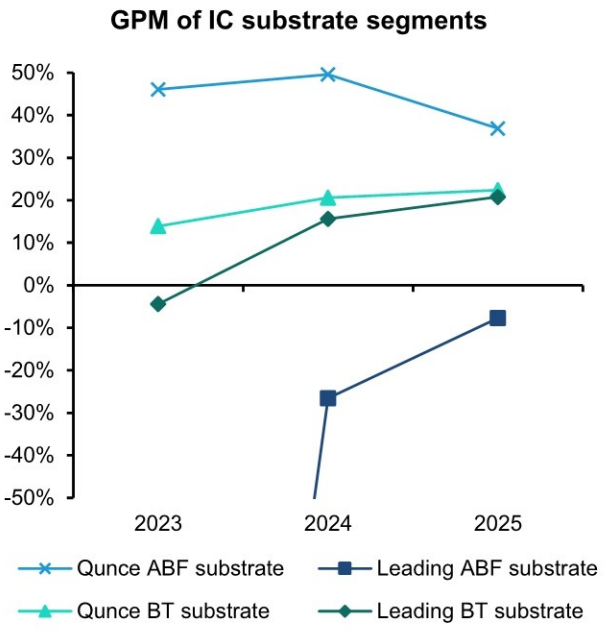
Source: Frost & Sullivan, Bernstein analysis

EXHIBIT 26: **Compared with ABF substrates, the BT substrate industry is more fragmented and features greater participation from mainland Chinese players**



Source: Frost & Sullivan, Bernstein analysis

EXHIBIT 27: **Qunce and Leading profitability should continue recover this year drive by strong AI demand and better yields**



Source: Company prospectus, Bernstein analysis

EXHIBIT 28: **mSAP HDI adoption has been expanded from smartphon to optical transceivers, particularly in 1.6T products**

Optical transceivers	400G	800G	1.6T
HDI type	Regular HDI	Regular/ mSAP HDI	mSAP HDI
Line Width / Spacing	>50/50 μm	30/30-50/50μm	25/25-30/30μm

Source: Bernstein analysis

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