Goldman Sachs Research

Equity Research
26 May 2026 | 6:37AM HKT

CHINA HUMANOID ROBOT

Mid-year check-in: Several steps closer toward commercial reality

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During the GS Asia Communacopia + Technology Conference in Hong Kong on 18–19 May and our China AI Robotics Trip in Shenzhen and Beijing on 20–22 May, we met with **14 robotics companies** across private and public markets. These firms represent a **broad cross-section of China's embodied AI, robotics, and automation ecosystem**, including: Daimon Robotics (private), Dobot (2432.HK, Not Covered), Estun Automation (2715.HK/002747.SZ, Neutral/Sell), Galaxea Dynamics (private), Galbot (private), Geek+ (2590.HK, Not Covered), LimX Dynamics (private), Linkerbot (private), Mech-Mind (private), One Robotics (6600.HK, Not Covered), PaXini (private), Spirit AI (private), UBTech (9880.HK, Not Covered) and X Square Robot (private).

This trip provided a mid-year check-in on the latest industry developments, and **we came away very encouraged to see the fast integration of VLA/VTLA (Vision-Language-Action/Vision-Tactile-Language-Action) models with world models for improved planning and robustness,** with model scales quickly trending larger despite ongoing iteration needed for deployment-ready quality. **High-quality, real-world data remains the primary bottleneck, driving a higher consensus on scalable, human-centric data acquisition, with investments in both centralized data factories and distributed deployment-loops (via UMI and egocentric POV etc), and an expectation of significantly increased data-related revenue.** Commercialization scope is broadening though is mostly at the proof-of-concept (POC) stage (especially for industrial and logistics applications) rather than large-scale deployment, which most industry players expect to materialize by 2027-2029, once they have accumulated tens of millions of hours of high-quality data on top of a deployment-ready model. In the meantime, cost reduction is primarily being achieved through scale and full-stack R&D control.

Despite the current challenges, the long-term investment outlook for this sector remains highly promising in our view. **The advancements discussed, particularly in multimodal AI stacks and sophisticated data acquisition, indicate that the industry is moving several steps closer to practical, widespread deployment. However, we believe investors should recognize that this journey still requires patience,** as companies navigate the complex transition from proof-of-concept to large-scale commercialization, with consistent quality and cost reduction being key milestones.

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Our key takeaways:

- **Model discussion is moving beyond a narrow VLA-only framing toward execution-oriented multimodal stacks:** specifically, **rapid VLA-world model integration followed by VLA refinement, such as VTLA i.e. adding touch where physical interaction quality matters most.** World models were discussed less as a standalone model category and more as a functional layer alongside action models: VLA or VTLA handles policy and action generation, while world-model capabilities improve whether, when, and how actions should be executed through next-state prediction, action validation before commitment, and stronger planning and robustness under real-world uncertainty. Companies that clearly framed the next step as some form of VLA/VTLA + world model combination include: Galaxea, Galbot, Spirit AI and One Robotics. Against that backdrop, model scale is moving higher, with discussions around larger stacks in the c.40B-80B range vs. smaller single-digit-billion-parameter pre-training systems. Players emphasized that multiple rounds of iteration are still ahead before these stacks are at deployment-ready, consistent quality.
- **High-quality, real-world, multi-dimensional data remains the primary bottleneck to practical deployment, but the discussion has clearly moved beyond broad "data recipe" debates toward what scalable data acquisition architecture can reliably produce that data.** Within that shift, **human-centric and ego-centric collection increasingly looks like the preferred real-world collection method** for high-fidelity data, especially where companies care about preserving natural motion, contact-rich interaction, and cross-embodiment transfer. **In terms of on-the-ground investment, some players have moved toward purpose-built data infrastructure at factory scale with government support;** these include PaXini, which currently operates five data factories nationwide. **Others** such as Galaxea, Spirit AI and One Robotics appear to be building more **distributed deployment-loops** through deployed systems, wearables, VR, and client-side collection. **Multiple companies are guiding toward a higher data-related revenue mix into 2026**, **including government data factory demand that remains supportive** (2026 data factory demand to remain as strong or stronger, per UBTech).
- **Commercialization is broadening across industrial handling, logistics-style workflows, and a narrower set of structured commercial scenarios; industrial adoption remains** staged from POC to pilot to small-batch rollout, and only then to larger-scale deployment**.** Key near-term opportunities that stood out include: sorting, material handling, pick-and-place, inspection / testing, and other standardized or semi-structured workflows. Per multiple companies' comments, industrial deployment necessarily follows a multi-step conversion starting with POC (typically 3-6 months, avg. 2-3 rounds), small-batch testing (typically sub-50 unit scale per factory order), and around 12 months of validation, before finally pilot deployments begin to move order sizes toward roughly 50-100 units per customer.
- **Cost reduction continues and is being pursued through company-specific choices around architecture, component scope, and deployment form factor,**

but scale remains the primary driver of savings. Among full-humanoid players, full-stack R&D control remains the most common cost-control approach. It is worth highlighting that, likely on both model capability constraints and cost considerations, we noted that many players seem to prefer wheel-base robot plus two-to-three finger grippers as the more reasonable choice for the time being which can cover 70%-90% of industrial applications, while they don't rule out potential bipedal humanoids plus five-finger dexhands into the future.

Detailed takeaways by company within.

The author would like to thank Zhou Li, Hao Chen, Zhihan Ye, and Junfang Zhang for their contribution to this report.

Detailed takeaways by company

Daimon Robotics (private)

- **Model/embodied intelligence stack:** On model strategy, instead of building the comprehensive VLA model, Daimon focuses on tactile small models or a plug-in/pre-training layer that integrates into other VLA/VTLA frameworks. Daimon's products will not solely be sensors but a solution including tactile sensing hardware, data and tactile small models. Daimon believes the visuotactile technology route is more compatible for model integration as it shares the same image frame with VLA models.
- **Data strategy:** Mgmt framed the company's data strategy as establishing understanding/processing/evaluation capabilities rather than pure large-scale volume data collection and operation. Daimon commented that data volume is not scarce currently; however, high-quality applicable data is limited. Therefore, Daimon customizes its data collection type and process according to end markets' demand instead of a fixed comprehensive data package. Daimon has also developed unique tactile sensing technology with its monochromatic-light visuotactile technology route resulting in better cost-efficiency, robustness and lower computing power demand, per mgmt. The type of data fed into Daimon's robotic AI model follows the three-layer pyramid of teleoperation, human-centric and simulation data. The company's most distinctive data collection mechanism is a distributed, rental-based business model, with its DM-EXton (data collection wearable device) hired out through carrier outlets for at-home data collection (paying tens of Rmb per hr). Once it has achieved large-scale distribution, Daimon aims to collect datasets at a scale of millions of hours.
- **Commercialization progress:** The company has a complete product set of DM-Tac (sensor), DM-Hand (tactile hand) and DM-EXton (data collection wearable device), building up an ecosystem of hardware, data and downstream integration. Per mgmt., tactile sensors sales are closely linked to dexterous hand sales, but the industry has yet to reach a consensus on a standardized number of fingers or technical roadmap. Daimon sees high growth in revenue from data and overseas, but the company still believes hardware sales will return to being the main revenue driver in 2-3 years'

time while data acts as high value-add supplement.

- **Cost reduction path:** Daimon's major tactile sensor DM-Tac W is at Rmb1,299 per sensor/fingertip for ASP, and the cost-reduction will be mainly driven by scale while the company is willing to pass through certain benefits in order to secure customers/ecosystem.

Dobot (2432.HK, Not Covered)

- **Model/embodied intelligence stack:** Dobot's technology route emphasizes a one-brain-multi-form approach, aiming for one model to generalize across 50+ scenes and cover industrial needs across multiple robot forms. The high-level model will act as an intelligence hub for data reading, task distribution and coordinated control, e.g. dispatching a humanoid for handling and a quadruped for logistics. Dobot has in-house VLA while a world model is also in its R&D pipeline, developing for model tuning. The overall strategy runs from pre-programming 1.0, to deep-learning 2.0, to AI-driven embodied intelligence 3.0, with mgmt arguing body-hardware upgrades in return will push software-capability progress.
- **Data strategy:** The company said data accumulation will be a by-product of its large installed base rather than a standalone collection operation, leveraging the 15 major scenes and the broad customer base built up through Cobot shipments. For Dobot, training is conducted mainly in real scenes, with data accumulated synchronously during PoC progression rather than relying fully on simulation. Mgmt sees its large industrial customer base as having accumulated substantial real-world industrial-scene understanding, which forms the basis for model training and scenario generalization.
- **Commercialization progress:** Management noted Dobot's embodied-AI-related revenue was only 4% of revenue but grew 4x yoy in 2025 and will continue high growth momentum in 2026. Per mgmt., embodied AI is being commercialized as industrial validation first, then in broader 2B end-markets, and finally in the 2C end-markets, noting the next PoC round is progressing smoothly. On shipments, 2025 volume was 200-300 units, with this year driven mainly by wheeled robots plus robot dogs and full-size humanoids guided at 300-500 units (wheeled and bipedal). On pricing/margin, humanoids with ASP at Rmb200-500k (avg Rmb300k) have achieved 45% GPM.
- **Cost reduction path:** Dobot's hardware foundation remains its cobot platform, with management viewing its arm and upper-limb capability as its strongest reusable asset. The company can directly reuse cobot precision/control/execution experience and extend to dual-arm coordination via model and control upgrades. The company has built out a comprehensive product matrix across robot arms, quadruped robot dog and wheeled/bipedal humanoid, addressing different factory tasks based on difficulty tiers. Dobot mgmt. estimates industrial demand can be met c.50% by robot arms, 20-30% by wheeled humanoids and 20-30% by bipedal humanoids. Per mgmt., bipedal humanoids are the ultimate, highest-generalization form (strongest brain-level task adaptation) but near-term shipments are more likely to be led by wheeled robots, robot dogs and the existing cobot platform, jointly supporting the embodied AI ramp.

Estun Automation (2715.HK/002747.SZ, Neutral/Sell)

- **Revenue target:** Growth drivers remain as: 1) domestic substitution (particularly higher-end applications) and 2) overseas expansion, with overseas mix rising to ~30% in 1Q26 and expected by mgmt to continue increasing. Product mix is shifting toward medium/high-payload robots, supporting ASP/margin improvement. Mgmt. emphasized that FY2026 guidance (>Rmb60bn revenue) will be execution-dependent rather than demand-constrained, and that overall company strategy has shifted significantly post-2024 losses: de-emphasizing pure share/volume, now prioritizing better mix, profitability and quality of growth.
- **Cost reduction path:** NP target of ~Rmb300mn for FY26 maintained, with ~Rmb200mn expected from core operations. The key cost actions are: 1) upstream localization (reducers, chips still partially imported); 2) stricter low-margin project selection (sub-30% GM orders taken more cautiously); 3) increased standardization (vs. prior highly customized projects); and 4) tighter expense control (total opex not exceeding FY25; financial expense reduction via better cash flow + debt repayment).
- **Competition**: **Competition:** Mgmt. noted a clear intensification of competition in China, including on pricing and with more players bidding for tenders, and with KUKA now a major competitor alongside Fanuc.

Galaxea (private)

- **Model/embodied intelligence stack:** Galaxea's full technology stack covers an embodied AI base model (VLA + world model), data and the entire robot body designs, with mgmt emphasizing a one-brain-multi-body route. They added that the model's ability to transfer across robot bodies is a strong emphasis but not applicable yet as it still requires post-training iteration. On the world model progress, Galaxea just released its Fast-WAM in Mar 2026 with low latency of 190ms and much higher efficiency than many others, per the company.
- **Data strategy:** Galaxea positioned high-quality real-world data as the company's core moat, rather than synthetic data. The company is the earliest to pursue this strategy, has been driving the innovation of data collection device such as UMI gloves (universal manipulation interface) and now has one of the largest high-quality data sets. Its data is gathered through a collect-while-working model with the Yizhuang government, with real-robot teleoperation the dominant type (est. 80%-90% of the mix) alongside UMI gloves, exoskeleton data collection and ego-centric POV. Galaxea open-sourced 500hrs of internal data and achieved strong developers' recognition (which mgmt cited as evidence of the company's data quality and usability), with data volume scaling to 1mn hours this year.
- **Hardware design:** The company has been leading the formulation of many industry standards and mgmt believes a wheel-base robot plus grippers is a more reasonable choice for the time being which can cover c.90% of industrial applications, with VLA execution reaching up to 80-90% of human speed. Its current main products, R1-Pro and R1 Lite, are both wheel-based while they don't rule out potential bipedal humanoids into the future. Its robot products have been recognized by the overseas academic community for their maturity and stability.

Geek+ (2590.HK, Not Covered)

- **Model/embodied intelligence stack:** Geek+ emphasized the importance of a "scenario-first" data/mindset when it comes to logistics model strength: leverage real warehouse task flows and data loops to guide model/application development. In practice, complex tasks are decomposed into smaller, trainable sub-tasks with defined boundaries (e.g. picking workflow: 2D vision → 3D reconstruction → segmentation → grasp execution), prioritizing reliability over generality. Regarding its embodied intelligence subsidiary (established in Jul 2025, to focus on R&D and related products for embodied intelligence, including AI-powered robotic arm picking), mgmt. emphasized that model/data/technology routes have not converged in the industry; hence, as opposed to making heavy upfront bets, the current focus remains on deployable, bounded-use cases rather than frontier embodied AI.
- **Commercialization progress:** Growth remains driven by existing customer deepening (~80%) and new customer conversion (~20–30%), with conversion tied to ongoing customer education rather than demand constraints (mgmt. explicitly characterized the market as still relatively blue ocean, with ample unmet demand). Looking ahead, management views ~30% yoy growth (achieved in FY2025) as broadly sustainable, with potential upside coming from internal capacity (sales, delivery, resource allocation), while they said downside would stem from constraints in resource deployment rather than demand weakness.

LimX Dynamics (private)

- **Model/embodied intelligence stack:** LimX's model is a three-layer system with system 0 as the whole-body motion control, system 1 as the humanoid VLA skills and system 2 as the embodied agentic OS (COSA). The company's model thesis is to decompose complex environments into learnable skills rather than rely on remote control. On Oli and TRON 2's uneven-terrain stability, mgmt. said the action model starts from existing video-generation models, extracts motion information from video, and distills it into a simplified action-guidance model.
- **Data strategy:** LimX expects application scenarios to be developed jointly with customers and developers rather than predefined internally. Hence, Oli and TRON 2's positioning is a research and industrial development platform, with open SDK (software development kit) access and Python support etc. and covers collection, cleaning, annotation, training, and inference to name a few, with the goal to also build developer stickiness over time.
- **Commercialization progress:** Mgmt. outlined two paths: (1) service-oriented robots beyond fixed industrial lines, and (2) LimX hardware plus low-level control as a base platform for third-party humanoid software development. LimX is emphasizing modularity and stable high-DoF control. Dexterous hands remain externally sourced. Mgmt. believes two-finger and three-finger grippers can meet most current use cases.

Linkerbot (private)

- **Model/embodied intelligence stack:** Beyond positioning as a dexterous-hand

player, Linkerbot is building its own embodied big model that converts 2D objects/scenes into 3D operation. Per mgmt., the AI business splits into a faster-monetizing demonstration-free workstation solution that augments existing hardware via algorithms, and the longer-horizon embodied-intelligence track.

- **Data strategy:** Linkerbot targets a high value-add "master-craftsman" skill database rather than the normal commoditized tasks. The proprietary LinkerSkillNet platform is the world's largest real-world dexterous-operation dataset (500+ skills), with a multimodal collection system that converts human skill into standardized, reusable robot-hand capability.
- **Commercialization progress:** Mgmt said it has reached an over 80% global share of the high-DOF dexterous-hand market (No.1) and that it is the only player mass-producing 1,000+ high-DOF hands monthly (peak at 4,000 units). Its customer base covers top humanoid players, industrial/3C/appliance/auto companies, top research institutions and universities and data customers. On monetization, mgmt noted that software/skills today are largely monetized bundled with hardware via a skill premium, as a standalone Skill Store is difficult to monetize domestically while US customers accept result-based leasing (~6-month payback). Per mgmt., the company deliberately avoids commoditized handling/sorting in favor of long-term high-value skills, expecting to replicate all human precision work in 3-5 years.
- **Product strategy:** Linkerbot covers all three dexhand technology routes — linkage, tendon-drive and direct-driven — across 3 series / 8 hands topping 42 DOF. Per mgmt., 70% of dexhands' hardware cost are joint motors and reducers. Mgmt added that Linkerbot's dexhand products are Rmb10-20k cheaper than rivals, with ASP 50% lower than overseas thanks to self-developed joint modules and in-house motor coil winding, while claiming high durability of c.1mn grasping cycles in lab in application with a 12-month warranty.

Mech-Mind (private)

- **Model/embodied intelligence stack:** The company's model focus is on delivering a fast perception-to-decision loop in industrial settings. Per mgmt., their current 3D vision system runs a ~0.3-0.4s cycle, covering coordinate capture (XYZ), real-time learning, and decision output. In practice, this is commercialized as an integrated intelligence layer bundled with robotics, rather than a standalone vision product.
- **Data strategy:** Mech-Mind's real-world 3D vision data is primarily sourced from live project deployments, supplemented by university collaborations. This reflects a deliberate choice to build datasets from real industrial scenarios rather than centralized data factories. Early datasets focused on logistics and consumer goods manufacturing; however, current data accumulation is more concentrated in NEV and automotive manufacturing, aligned with the company's target vertical expansion.
- **Commercialization progress:** Currently, core customers are concentrated in automotive and battery manufacturing (largest customer: Tesla). Beyond these verticals, mgmt. highlighted that logistics, general manufacturing, 3C, and automotive electronics have also seen relatively fast growth. In logistics specifically,

mgmt. commented that penetration remains LSD%, but the large labor base implies meaningful TAM even with limited human labor substitution. More broadly, mgmt framed their addressable market as a subset of ~500k global annual industrial robot deployments, where ~20-30% may be compatible with vision/intelligence overlays as part of the Physical AI upgrade.

- **Business model:** The company's core positioning remains as an industrial robot intelligence layer provider, with current shipments delivered as bundled camera + sensor + software packages. Dexterous hands (launched last year) are still workstation-based, with customer delivery as a full-stack bundle (hands, sensors, robot, vision system). Technical differentiation is framed around optics–algorithm co-design rather than hardware customization; the company uses general-purpose FPGA/CPU. The company's value-add is therefore positioned in software/control, with hardware cost optimization incremental rather than the primary lever, per mgmt.

One Robotics (6600.HK, Not Covered)

- **Model/embodied intelligence stack:** Target architecture is end-to-end embodied AI, moving from modular systems toward VLA + world model integration (with VLM as a supporting layer). OneModel 1.7 (launched on 21 May) uses a latent world action model, combining world-model generalization with VLA execution. Additional modules include motion-centric control for household tasks and a "success memory" layer that recalls prior successful executions.
- **Data strategy:** Data stack combines UMI physical data (sensors/interfaces) and video data, supported by in-house real-robot data factories (Huizhou, Qianhai), government-backed deployments (e.g., Shenzhen), and multiple collection methods (human demo, VR, imitation, egocentric recording). Mgmt. highlighted a structural shortage of household-scene data; Qianhai data factory is positioned as a dedicated home-scene data center covering real-world multi-modal tasks (e.g., laundry, cooking, dishwashing).
- **Commercialization progress:** Near-term focus is semi-structured service scenarios (e.g., retail, elderly care), followed by government deployments for data collection/validation, then consumer rollout (~3-year horizon, per mgmt.). Onero (the company's latest general-purpose humanoid robot product) targets easier-to-deploy service use cases (e.g., in-store delivery); Acemate (tennis robot) is planned for launch via Amazon in 2027. Long-term positioning: Onero at ~US$10k ASP (gripper version), with higher pricing for five-finger variants.
- **Cost reduction paths:** Onero remains in iteration; mgmt. targets scale deployment from 2H26 and sees ~US$3k BOM as a key threshold for household adoption. Its key cost-reduction strategy is to use software algorithms to offset hardware precision limits while continuing to optimize core components to push hardware costs lower.

PaXini (private)

- **Model/embodied intelligence stack:** Mgmt. emphasized a focus on touch in addition to vision for physical interaction, citing better alignment with force-based

tasks vs. vision-heavy VLA approaches. Plans to launch a touch-led VTLA ("tactic") model next month to complement customers' vision-centric stacks.

- **Data strategy:** Human-centric, non-teleoperation collection explicitly positioned as superior to traditional teleoperation, per mgmt. Core advantage framed by mgmt as (i) cross-embodiment reusable datasets and (ii) a human-centric data system as the base layer. The company operates 5 data-collection factories (Tianjin, Suqian, Wuhan, Zigong, Ganzhou) with varied data focuses corresponding to each region's industry strengths. Data is also collected via customer co-collection (e.g., JD, BYD).
- **Commercialization progress:** The company has been leading the formulation of many industry standards. Current commercialization focuses on data and tactile sensors. Data is used for: (i) training ~15 vertical models, (ii) selling to large-model players, and (iii) customized datasets for robot applications. In logistics sorting, the company guided that ~100-200mn data points are sufficient for deployment, with timelines as short as 1-2 months (already progressing with JD via project + concurrent data collection). End-market positioning is framed as upstream infrastructure (data and sensor layer supply), with ~15 initial robot-suitable job categories identified.
- **Cost reduction path:** Mgmt said the company's current scale is already driving cost declines, allowing it to offer ASPs of Rmb199/599/899 (different tiers) vs. historical ~Rmb100k levels. In terms of different tactile sensing technology routes, magnetoelectric sensing was highlighted to best balance cost, precision, and robustness (vs. higher-cost, fragile visuotactile approaches). Mgmt. further framed fingertip tactile sensors as a key feedback layer to reduce overall system cost over time.

Spirit AI (private)

- **Model/embodied intelligence stack:** Spirit's core thesis is VLA plus world-model fusion (VLA leaning to understanding, world model to prediction) on a latent-prediction (not frame-by-frame) route. On a verifiable basis, Spirit v1.5 (open-sourced in Jan 2026) topped the RoboChallenge Table30 at 66.09 points / 50.33% success as the first Chinese open-source embodied model to surpass Pi0.5. With a rapid expansion of pre-train data volume and improving foundation model quality, the post-train time has compressed sharply.
- **Data strategy:** Spirit AI mgmt expressed a firm real-data conviction that the real-world interaction-data effectiveness is the core variable for embodied-model capability. The company's business model runs from the idea of building the brain for the robot, treating data itself as the core moat. Spirit's data factory focuses on commercial and housework scenes, with 800+ robots already deployed for continuous remote-monitored data collection and paid data backflow from deployed-device users. Per mgmt., the real-robot data stands out because simulation diversity is insufficient and out-sourced data has low quality. The company has a year-end target of 1mn cumulative real hours (tens of millions next year) to potentially drive a meaningful model breakthrough.
- **Commercialization progress:** Commercialization is still at an early stage of product

standardization and post-train efficiency validation, as mgmt judges the base model to be not yet enough for broad commercialization; key constraints are the post-train time and cross-scene generalization. Benchmark customers cited were CATL, JD and Bosch. At CATL, Spirit AI's humanoids enter battery high/low-voltage, leakage and power-supply inspection, where one robot replaces one station (previously 2-3 shifts). This application has already passed PoC and started procurement in small batches. Per mgmt., real scale-up commercialization comes only once products standardize, estimated at around 2028 when cross-body and general-task ability may mature. Application in home/consumer service remains distant due to high safety/stability bars, keeping the near-term focus on industrials, with model success on novel tasks at ~40-50% today vs the 60-70% threshold where constraints meaningfully ease, per mgmt.

- **Hardware design/supply chain:** The company's hardware design and selection is subordinate to the brain (model training, data collection). The company's hardware R&D focuses on lower-cost collection gear, more stable motion control and end-actuator (dexhand/gripper) forms better suited to generalization training. Spirit AI MOZ1's body uses OEM/ODM arms with reducers/joints/motors that are mostly domestically manufactured and chips that are mainly sourced from NVIDIA. The company's wearable/teleop collection device has already iterated 2-3 generations with a clear cost reduction curve, acting as infrastructure for large-scale real world data. Three-finger dexhands/grippers are in testing and about to enter real collection, with five-finger hands ruled out due to short lifespan and high cost, per mgmt.

UBTech (9880.HK, Not Covered)

- **Data strategy:** 2025 humanoid demand was ~50% industrial/50% data factory, with mgmt. expecting 2026 data factory demand to remain as strong or stronger, supporting both revenue and data accumulation. Data factory model: local governments purchase robots and own the data, with UBTech accessing data via paid/cooperative arrangements (subsidies + hardware orders + data access). Third-party data is also used for pre-training (to enhance data diversity), but the company emphasized that fine-tuning still relies on in-house embodied data. On vision technology, mgmt said its Walker robots' shift from 3D to mainly 2D/RGB cameras is driven by data quality (less pre-processing), with cost also materially lower.
- **Commercialization progress:** 2026 delivery guided at ~10k units (5k industrial / 5k commercial-home). Autos remain the largest industrial vertical; demand from Tier 1 auto parts, semis, and 3C has picked up since 2H25 (primarily loading/unloading). Mgmt. reported new interest from logistics players (e.g., willingness to trial ~200 units, at higher ASP). Commercial-service robots are positioned more for capability demonstration than profit, with ASP ~Rmb150-200k. Industrial humanoid ASP is guided at ~Rmb550-650k in 2026 (vs. Rmb700–800k in 2025), primarily reflecting BOM-driven cost-down.
- **Cost reduction path:** Mgmt. framed cost-down as primarily scale-driven: BOM reduced from ~Rmb400k (early 2025) to ~Rmb250k (end-2025), and now just above

Rmb200k; targeting ~Rmb200k near term and ~Rmb100k longer term (~2027E, per mgmt.). The main driver is module scaling (actuators/reducers ~30% of BOM); structural components (~50%) offer further upside via shift from CNC (Computer Numerical Control Machining) (Walker S2) to mold-based production (Walker S3). Cameras/sensors (~7%) and chips (~10%) are smaller contributors to total cost reduction, per mgmt.

Estun Automation Co. (002747.SZ/2715.HK, Sell/Neutral)

Investment Thesis

Estun Automation Co is the domestic leader in industrial robots with in-house production of servos and controllers. Its market share now ranks No.1 in the domestic industrial robot market and it is rapidly expanding market share in the automation component market. We believe the tailwind from the trend of domestic substitution and production automation by industrial robots will continue in the coming years. Per Estun, the company aims to improve its product and business quality, and to compete directly with the Big Four to further drive market share gains. However, we are cautious on its margin outlook due to: 1) fierce price competition in its major end markets, auto and auto electronics; and 2) inconsistent earnings track record. We do recognize the company already has credible monetization paths in "physical AI" for industrial settings and meaningful optionality into the broader humanoid ecosystem, and forecast AI projects to take up 10% of firmwide revenue by 2030E.

Price Target Risks and Methodology

Valuation: Our 12-month target price for Estun A/H of Rmb14.9/HK$11.8 is derived from 2030E P/E of 35X and 25X, discounted to 2027E at a COE of 11.5%. We are Sell rated on Estun A / Neutral on Estun H.

Upside risks for Estun-A: (1) Faster-than-expected robotics market share gains; (2) Better-than-expected margin trend; (3) Faster-than-expected humanoid robot development progress.

Up/Downside risks for Estun-H: (1) Faster/Slower-than-expected robotics market share gains;(2) Better/Worse-than-expected margin trend; (3) Faster/Slower-than-expected humanoid robot development progress

Disclosure Appendix

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I, Jacqueline Du, hereby certify that all of the views expressed in this report accurately reflect my personal views about the subject company or companies and its or their securities. I also certify that no part of my compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

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Growth is based on a stock's forward-looking sales growth, EBITDA growth and EPS growth (for financial stocks, only EPS and sales growth), with a higher percentile indicating a higher growth company. **Financial Returns** is based on a stock's forward-looking ROE, ROCE and CROCI (for financial stocks, only ROE), with a higher percentile indicating a company with higher financial returns. **Multiple** is based on a stock's forward-looking P/E, P/B, price/dividend (P/D), EV/EBITDA, EV/FCF and EV/Debt Adjusted Cash Flow (DACF) (for financial stocks, only P/E, P/B and P/D), with a higher percentile indicating a stock trading at a higher multiple. The **Integrated** percentile is calculated as the average of the Growth percentile, Financial Returns percentile and (100% - Multiple percentile).

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Target price history table(s)

Estun Automation Co.(A) (002747.SZ)

Date of report	Target price (Rmb)	Closing price (Rmb)
05-May-26	14.90	21.87
07-Apr-26	16.60	19.41
24-Feb-26	9.90	24.28
02-Oct-25	10.30	25.60
02-Sep-25	9.50	24.43
06-Aug-25	9.90	24.21
13-May-25	14.90	21.17
07-May-25	13.40	20.85
12-Mar-25	15.60	24.19
04-Nov-24	11.30	16.13
18-Oct-24	12.80	14.60
05-Sep-24	9.80	12.21
12-Jul-24	12.40	12.62
09-May-24	14.40	16.31
08-Jan-24	16.10	16.30
01-Nov-23	22.10	18.36
06-Sep-23	25.30	23.06
01-Sep-23	22.70	23.23

Estun Automation Co.(H) (2715.HK)

Date of report	Target price (HK$)	Closing price (HK$)
05-May-26	11.80	13.29
07-Apr-26	13.10	11.86

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