

CHINA HUMANOID ROBOT

2026 WRC takeaways: Healthy shift to commercialization & ROI

We attended the **2026 World Robot Conference (WRC)** across Aug 19–20, 2026 (with the full event running from Aug 19–24), and met with **10 leading humanoid robot companies: Engine AI, Fourier, Galaxea, Galbot, LimX Dynamics, Paxini, Robotera, Spirit AI, UBTech, and X Square Robot** (all private or non-covered; company names listed in alphabetical order). **Key takeaways:** The 2026 WRC marked a **significant and healthy shift in the humanoid robotics industry, moving firmly from technical demonstrations to a focus on product-market fit (“PMF”), measurable ROI, and early commercialization.** The event itself expanded and transitioned into an application-driven, demand-matching platform, with logistics sorting emerging as a visible early commercialization direction, targeting small-batch volume ramp by late 2026 and larger-batch in 2027. While no new AI model paradigm shifts were observed, there’s a growing emphasis on model engineering capability, scientific data collection and effective data frames to refine existing models. This evolving landscape necessitates selective investment in supply chain stocks: We stay Buy on Inovance (on CL), Sanhua H, Shuanghuan; Neutral rated on Leaderdrive, Sanhua A, Luster, Best Precision; Sell rated on Moons’ Electric.

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The event itself scaled materially, with the exhibition area expanding to 55,000 sqm (+10% yoy) and exhibitor numbers increasing to over 300 (+36% yoy). Notably, the count of humanoid robot OEMs grew to approximately 42 (+56% yoy). More critically, WRC’s introduction of themed days, including a dedicated Procurement Day, and the launch of the Global Robot Application Exploration Program, signaled a strategic transition from a product exhibition platform to an application-driven, demand-matching, and transaction-enabling forum.

Key Takeaways:

- 1. Shift Towards Commercialization and ROI:** The industry mindset has firmly pivoted towards real application ramp-up, Return on Investment (ROI) calculation, and product-market fit (“PMF”). While demonstrations of locomotion and entertainment still attract interest, discussions are now centered on quantifiable metrics such as task performance, success rates, throughput, and payback periods, reflecting a healthy maturation of the sector.
- 2. Logistics Sorting as a Leading Early Application:** Logistics sorting has emerged as one of the most visible early commercialization directions. Companies are now

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discussing concrete metrics like throughput (e.g., 1,300–1,800 parcels per hour), success rates (95% to 98%), and working-hour assumptions (e.g., 10+ hours daily, three-shift support, 4–5 year design life). This segment is projected to enter small-batch volume ramp by late 2026 and larger-batch ramp in 2027, driven by measurable ROI.

3. **Continuous Refinement in AI Models and Data Strategy:** No new paradigm shifts in AI model architecture were observed since **our mid-year check-in**. Instead, the focus remains on continuous refinement: scaling model parameters, enhancing multimodal perception, collecting more real-world operating data, and refining policy learning. There is a growing emphasis on model engineering capability, scientific data collection methodologies, effective data frames, and efficient conversion into high-quality, usable data, underscoring a constructive balance between scalability, cost, and quality.
4. **Upcoming Cost Reduction Driven by Scale and Standardization:** The magnitude of hardware form factor redesign and price reduction appears more limited compared to earlier stages. Previous cost reductions were largely achieved through actuator/joint design optimization, and supply-chain localization. Moving forward, the next phase of cost reduction will primarily depend on scale leverage, manufacturing yield improvements, standardized Bills of Materials (BOMs), and platform reuse. This shift is also influenced by cost inflation in critical components like chips (e.g., Nvidia Jetson Thor).

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Investment thesis, price targets & risks

Shenzhen Inovance is a domestic leader in industrial automation. We like the company's growth outlook given: 1) although its two key products, i.e., inverter/servo already reached 25%/33% or No.1/No.1 in China as of 2025, the company still has opportunities in overseas markets; 2) we expect the company to gain market share in small/large PLC, which will serve as a building block for it to extend into digitalization and transform into an IoT solution provider; 3) EV components continue to ramp up share on top of fast industry growth; and 4) digitalization business development with the potential to exceed our expectations. We view Inovance's major competitive moats that will underpin its resilience through cycles as: 1) industry leading R&D effectiveness with high success rates for new product lines; and, 2) a comprehensive product portfolio and end-market coverage that reinforce customers' switching costs. We view valuation as attractive given the shares are trading at around historical average multiples with a solid long-term growth and return profile; we are Buy rated.

Price Target Risks and Methodology – Shenzhen Inovance Technology Co.

Valuation methodology: Our 12-month TP of Rmb92.90 is based on 35x 2027E P/E at 9.5% CoE.

Key downside risks: 1) Slower-than-expected industrial automation market share gains;

2) Weaker-than-expected margin trends; 3) EV component segment ramp-up coming slower than expected; 4) general manufacturing capex/automation demand slowing down.

Investment Thesis - Shuanghuan Driveline

Shuanghuan Driveline is one of the largest gear manufacturers in China, and one of the few producing high-precision gears. We expect its market share to grow from 12% in 2022 to 17% in 2025E within a Rmb65bn TAM by 2025E, as it extends its gear applications from traditional end-markets (motorcycles, construction machinery, power tools) to growing new applications (automatic transmissions for passenger/ commercial vehicles, electric vehicle gears, robotic RV reduction gears). We believe Shuanghuan's EV gears revenue will deliver 23%/24% yoy growth in 2025E/26E, driven by increasing content value and market share gain in ex-China markets. In the meantime, Shuanghuan is proactively developing its new growth driver, intelligent transmission gears, for which we forecast 55%/43% yoy growth in 2025E/26E. We forecast 11%/19% firmwide revenue/net profit CAGR in 2024-26E, reflecting strong OP leverage from previous CAPEX investments as scale increases. We are **Buy** rated on consistently better-than-expected margins and operational resilience, and we believe future catalysts include faster overseas passenger vehicle gears share gain and better-than-expected GPM improvement.

Price Target Risks and Methodology - Shuanghuan Driveline

Valuation: Our 12-month TP of Rmb46.80 is based on 25x 2027E P/E.

Downside risks: 1) Lower-than-expected market share in NEV segment; 2) Lower-than-expected new energy revenue outlook; 3) Lower-than-expected industrial robot gears revenue.

Investment Thesis - Leader Harmonious Drive Systems Co.

We are Neutral rated on LeaderDrive, the domestic leader in China's harmonic reduction gear market. We are positive on the company for its growing harmonic reduction gear TAM expansion, driven by a broadening set of applications both domestically and globally across industrial robots, collaborative robots, humanoid/service robots, CNC machine tools and other high-end equipment, including solar, SPE, medical and aerospace. Beyond its core harmonic reduction gear business, LeaderDrive has also been expanding its humanoid robot product offering toward higher-content integrated modules, combining reducers with motors, encoders and sensors, which should support higher value per robot versus selling standalone components. The company continues to gain traction with overseas partners including volume shipments to the Chinese factories of at least two of the Big 4 international robot brands since 2024 and expects more meaningful revenue contribution into the next few years. While we are constructive on the company's long-term growth potential and see gradual humanoid robot contribution kicking in, we maintain our Neutral rating as valuation already appears to price in substantial long-run humanoid growth, leaving a more balanced risk-reward despite the company's improving content value and customer traction.

Price Target Risks and Methodology - Leader Harmonious Drive Systems Co.

Target price: Our 12-month target price for Leader Harmonious Drive Systems Co. is

Rmb186.7, based on a 2030E P/E of 50x discounted back to 2027E with an 11.5% CoE.

Upside risks: (1) faster-than-expected volume production and/or technology advancement of humanoid robots; (2) faster-than-expected penetration into key robot customers (especially foreign brands). **Downside risks:** (1) worse-than-expected domestic industrial/collaborative robot demand; (2) more competition pressure from overseas and local brands.

Investment Thesis – Sanhua Intelligent Controls

Sanhua is a global leader in HVAC control & thermal management components. We like its growth potential in humanoid robot actuators on top of a solid market leadership position in its core business, and expect it to deliver 16%/17% revenue/net profit CAGR in 2025–30E. On the HVAC component segment, we believe the company is well positioned to deliver revenue growth above the residential HVAC industry, driven by commercial HVAC market share gain and ramp up in sensor products. On the EV thermal management segment, we believe the company's revenue growth will be driven by further global EV penetration increase and modest content value gain. In addition, we see humanoid robots as a significant long-term technology trend, with Sanhua likely to secure a key role in the supply chain, as a high visibility actuator assembler. Catalysts include technology advancement in humanoid robot functionality, volume production for humanoid robot big customers, and further EV penetration in Europe. However, we think the market has priced in a too bullish outlook for humanoid robots compared to rather a delayed timeline of Optimus production. We are Neutral/Buy-rated on Sanhua-A/H.

Price Target Risks and Methodology – Sanhua Intelligent Controls

Valuation: Our 12m target price for Sanhua A/H is Rmb39.8/HK\$41.2, based on 2030E P/E of 25X, discounted back to 2027E with a COE of 9.5%.

Sanhua-A key upside/downside risks: (1) Faster/Slower-than-expected revenue contribution from humanoid robots; (2) Better/Worse-than-expected global EV sales; (3) Better/Worse-than-expected home appliance sales.

Sanhua-H key downside risks: (1) Slower-than-expected revenue contribution from humanoid robots; (2) Worse-than-expected global EV sales; (3) Worse-than-expected home appliance sales.

We believe the company is on track to become a competitive supplier of planetary roller screws (PRS) for humanoid robots, on the back of stable auto parts business growth (including ICEs and EVs). We adopt a long-term valuation approach for the company given the potential benefits we expect it to reap from entering the supply chain of high-spec humanoid robots, which we forecast will post an 80% global shipment CAGR in 2024E–35E. We expect Best to secure 10% global market share of PRS used in high-spec humanoid from 2027E onward, on the back of precision manufacturing experience gathered from fixtures products and the capacity support from equipment procurement. Meanwhile, commercialization of machine tool components is on track with ball screws and linear guides starting to see adoption by a few domestic machine tool makers in 2024. That said, we believe the risk-reward is fair as compared to our China Industrial Tech coverage and within the humanoid robot supply chain stocks, and hence we are Neutral-rated.

Price target: Our 12-month target price of Rmb22.5 is based on a 2030E P/E of 32x discounted back to 2026E at a CoE of 9.5%.

Upside/downside risks: (1) faster transmission components development; (2) faster EV parts capacity ramp-up. Downside risks: (1) slower turbocharger penetration growth; (2) lower-than-expected margins.

Investment Thesis - Luster LightTech Co.

Within the fast-growing machine vision sub-sector, we expect Luster's market share in traditional machine vision systems to grow mildly on the back of solution capabilities to service big customers and selective in-house software, cameras and lenses. Beyond traditional machine vision, Luster has been expanding into higher-growth new businesses, including ESS/new energy, AI servers and optical modules, which should support a more favorable product mix and margin profile over time. Starting from 2025, Luster's FZMotion motion capture system also began to increase its exposure to humanoid robot data collection, creating a second growth driver alongside its core machine vision business. While we are constructive on Luster's long-term growth potential from humanoid MoCap (motion capture) business and higher-margin new businesses, we maintain our Neutral rating as valuation already appears to reflect part of this business mix improvement and humanoid-related optionality.

Price Target Risks and Methodology - Luster LightTech Co.

Price target: Our 12-month target price of Rmb40.1 is based on a 2030E P/E of 30x discounted back to 2027E with a CoE of 11.5%.

Upside/downside risks: (1) Faster/slower-than-expected penetration and recovery in new energy sector; (2) Faster/slower-than-expected development on vision software; (3) Better/worse-than-expected motion capture business development; (4) Easing/Intensifying pricing competition in the machine vision industry.

Investment Thesis - Moons' Electric

We are Sell-rated on Moons' Electric, a domestic leader in motor and drive solutions. We expect the company to become an important player in the humanoid robot coreless motor supply chain, supported by its leading position in coreless motor products and broader motion-control capabilities. However, we remain cautious on the magnitude and profitability of this opportunity, given 1) potential for lower-than-previously-expected coreless motor adoption in dexterous hands amid a still-evolving technology roadmap; 2) intensifying competition across the coreless motor supply chain; and 3) near-term margin pressure from higher R&D and marketing expenses, raw material inflation, and early-stage investment in new businesses with limited economies of scale. While Moons' Electric's 2025 topline was supported by solid growth across FA, auto, robot and 3D-printing end-markets, and key products such as servo systems, coreless motors and automation systems continued to grow strongly, profitability has remained under pressure. Management is focused on cost supply-chain optimization and stricter expense control, but we see limited upside in the near term. After factoring in the company's humanoid robot potential in humanoid robots and its main business (Motors and Drives), we maintain our Sell rating as near-term margin pressure and execution uncertainty keep it less compelling relative to other opportunities in our coverage.



Price Target Risks and Methodology - Moons' Electric

Valuation: Our 12-month target price of Rmb39.6 for Moons' Electric is based on an unchanged 2030E P/E of 37x, discounted back to 2027E at a CoE of 9.5%.

Upside risks: (1) faster-than-expected humanoid robots progress; (2) higher coreless motor adoption in dexhand or blended market share vs. our expectations; (3) stronger-than-expected product competitiveness and share gain progress in Motors & Drives.