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China Auto Manufacturers

Robots & Robotics Parts Supply-Chain Weekly Update

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CITI'S TAKE

We developed the Tesla Optimus China Value Chain Index(Figure 1: Equal-weighted on Sanhua/Tuopu/Joyson—'STJ') and observe a diminishing market response to Optimus-related catalysts — from +50% over 46 days(Jan-25) and +81% over 53 days(Sep-25), to only +16% over 13 days(Sep-26) — attributable to investor fatigue on Optimus theme, weak auto parts fundamentals, and China market softness; notably, our Optimus index outperformed Global Robotics indexes from Sep-25 to Mid-26, but has since trailed on China market softness and policy headwinds. October saw widespread robotics de-rating, with Global Robotics Index(ROBO US) -4%, China Robot Index(CSI H30590) -10%, and our Optimus Index -13%; however, our Optimus index rebounded +6% today(vs.China Robot Index +3%), likely driven by rising robotics sentiment and anticipated Roadster order wins(TESLARATI, 15-Oct) — though official component orders unconfirmed given mass-production planned in 2028. We view 4Q26E Optimus production ramp as key near-term catalyst; maintain Buy on Joyson, Neutral on Sanhua/Tuopu(covered by Kyle Wu).

Tesla Optimus value chain index (Figure 1) – We formed the Tesla Optimus Value Chain Index by assigning equal weightings to the A-share prices of Sanhua, Tuopu and Joyson, respectively — all key component suppliers within the Tesla Optimus humanoid robot ecosystem. We recognize a correlation coefficient of 0.77 between the index and Tesla's share price since the start of 2025, indicating a strong positive linear relationship — consistent with the market treating these Chinese A-share suppliers as a high-beta expression of Tesla's humanoid robotics ambitions. **Global vs. China Robotics index (Figure 2) –** Our Tesla Optimus China Value Chain index outperformed China & Global Robotics index in Sep-25 to Mid-26; since Mid-26, both our Optimus and China Robotics indexes underperformed Global Robotics index due to broader China market softness, policy headwinds and weak fundamental in our views.

Sanhua/Tuopu/Joyson 3Q26 preview (covered by Kyle Wu) – (1) Sanhua: We expect Sanhua 3Q26 revenue at Rmb8,056mn (+4% YoY) with refrigeration segment at Rmb4,483mn (-2% YoY) and auto parts segment at Rmb3,573mn (+12% YoY); 3Q26 net profit at Rmb991mn (-12% YoY) with a GPM decline by -0.7ppt YoY to 26.8%. (2) Tuopu: 3Q26 revenue at Rmb8,553mn (+7% YoY) and net profit at Rmb633mn (-6% YoY). (3) Joyson: 3Q26 revenue at Rmb15,187mn (-2% YoY) and net profit at Rmb419mn (+2% YoY).

See Appendix A-1 for Analyst Certification, Important Disclosures and Research Analyst Affiliations

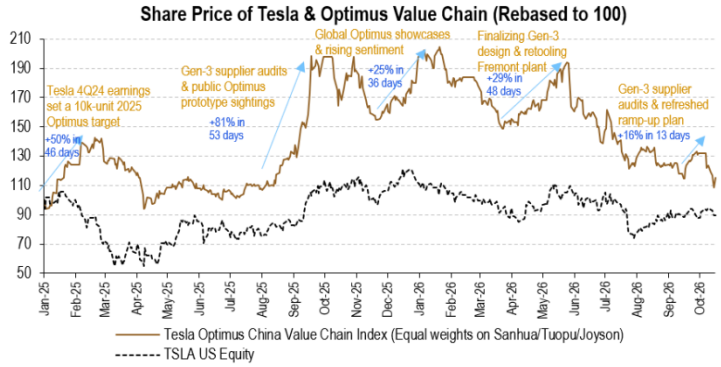
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Hesai Kosmo: Building the Data Foundation for Physical AI – On 14-Oct-2026, Hesai launched Kosmo — a 3D World Data Engine comprising the Kosmo One 8K AI spatial camera and the Kosmo World cloud platform — designed to solve physical AI's most critical bottleneck: the lack of high-quality, real-world 3D training data. By simultaneously generating 3DGS, mesh, and depth data from a single 15-minute scan with millimeter-level accuracy, Kosmo dramatically accelerates embodied intelligence training (demonstrated by lifting Sharpa robot task success rates to 99% at DQ stores), while also finding applications in film production (adopted by Pixar's RenderMan pipeline), cultural heritage digitization, and spatial commercialization through a partnership with Amap. Hesai Group (HSAI.O) - CEO/CFO Fresh Guidance on ASP, Actuator, and Cost Dynamics

Global robotics industry landscape (Figure 3-6) – The global robotics industry is entering a period of sustained structural growth, with IFR projecting annual industrial robot installations to rise from 603,000 units in 2025 to 806,000 by 2029 (+6% CAGR). China dominates demand with 354,200 installations (59% of global total), far ahead of the US (38,400) and Japan (36,200), while Electrical & Electronics and Automotive are the largest end-markets. In the humanoid segment, nearly 7,000 full-size units were sold globally in 2025 across 174 manufacturers — over 50% China-based — though the technology remains largely in pilot phases, with China (89), the USA (30), Europe (22), and RoW (33) all vying for early leadership in what could be the industry's next transformative frontier.

Further reading: Schaeffler AG (SHA0n.DE) - Model Update (covered by EU Auto analyst Ross MacDonald)

Figure 1. Share Price of Tesla & Optimus Value Chain

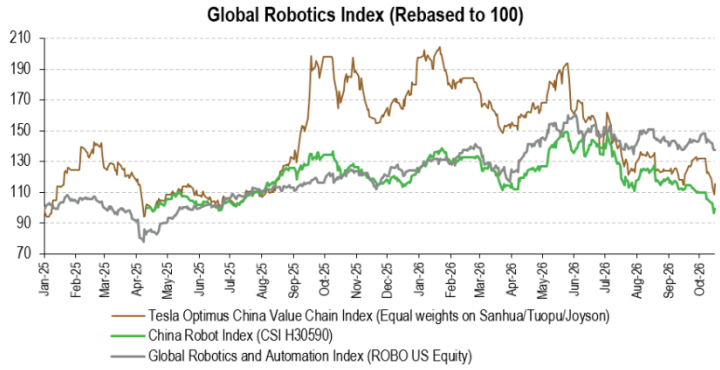


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Note: We develop a Tesla Optimus China Value Chain Index, by assigning equal weights on the daily share price of our covered companies Sanhua/Tuopu/Joyson (all key component suppliers within the Tesla Optimus humanoid robot ecosystem).

Source: Citi Research Estimates, Bloomberg

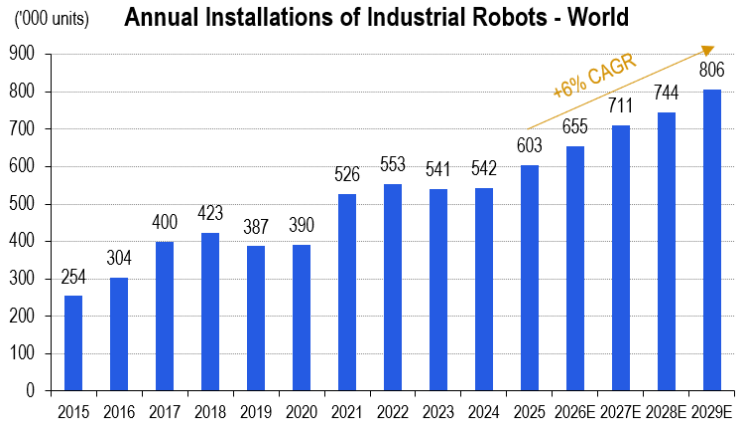
Figure 2. Global Robotics Index



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Source: Citi Research Estimates, Bloomberg

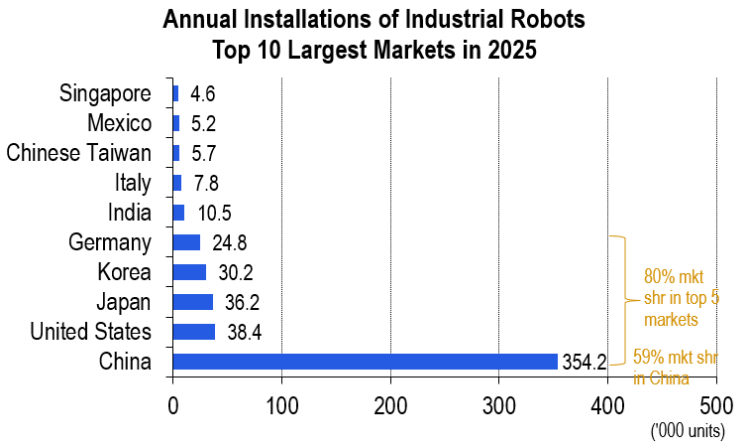
Figure 3. Annual Installations of Industrial Robots - World



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Source: Citi Research, International Federation of Robotics, World Robotics 2026

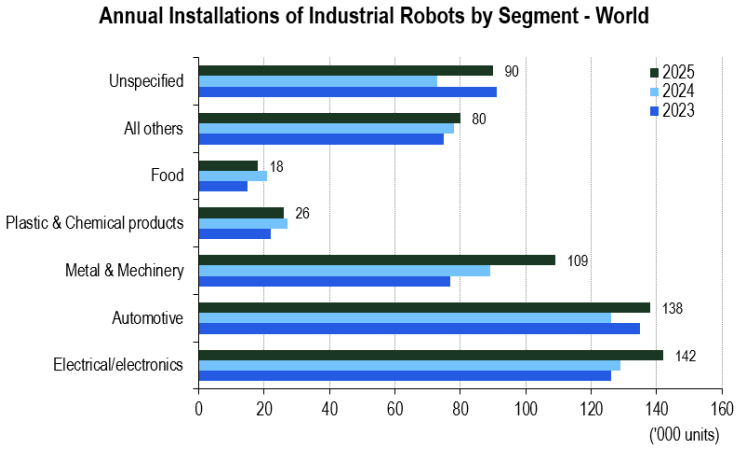
Figure 4. Annual Installations of Industrial Robots Top 10 Largest Markets in 2025



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Source: Citi Research, International Federation of Robotics, World Robotics 2026

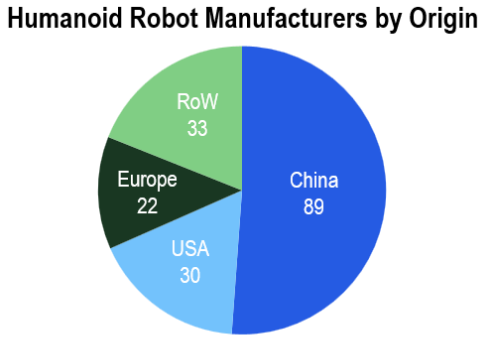
Figure 5. Annual Installations of Industrial Robots by Segment - World



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Source: Citi Research, International Federation of Robotics, World Robotics 2026

Figure 6. Humanoid Robot Manufacturers by Origin



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Source: Citi Research, International Federation of Robotics, World Robotics 2026

Companies Mentioned:
Hesai Group (2525.HK; HK$13.04; 1; 15 Oct 26; 16:10) | Hesai Group (HSAI.O; US$13.36; 1; 15 Oct 26; 16:00) | Joyson Electronic (0699.HK; HK$9.81; 1; 15 Oct 26; 16:10) | Joyson Electronic (600699.SS; Rmb20.3; 1; 16 Oct 26; 15:00) | Ningbo Tuopu Group (601689.SS; Rmb39.8; 2; 16 Oct 26; 15:00) | Sanhua (2050.HK; HK$20.86; 2; 15 Oct 26; 16:10) | Schaeffler AG (SHA0n.DE; €5.75; 1H; 15 Oct 26; 17:30) | Tesla (TSLA.O; US$362.44; Not Rated; 15 Oct 26; 16:00) | Zhejiang Sanhua Intelligent Controls (002050.SZ; Rmb31.42; 2; 16 Oct 26; 15:00)

