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China Industrials | Asia Pacific

Robotics: US Protectionism - Competition Rising

The US announced it will restrict the import of new foreign-produced advanced robotic devices. We see limited short-term impact to China humanoids, but the global roadmap and ecosystem could be more uncertain long term. We remain positive on China's competitiveness in intelligent robots.

Key Takeaways

- Considering the importance of physical AI and given the FCC's prior actions with drones, we see a risk that further restrictions could be introduced.
- We expect limited near-term impact on Chinese robotics, but the long-term robotics roadmap, landscape and ecosystem could be affected.
- We are positive on the competitiveness of China robots. Humanoid deployment started early in China; we are optimistic on its potential to capture global demand.
- On stocks, near-term catalysts are likely to support sector performance, including Unitree IPO (subscription starts Aug 10), the WRC and Humanoid Robot Games.
- Among our coverage, we continue to prefer LeaderDrive, Hengli Hydraulic and Shuanghuan. Geekplus is negatively exposed, but with limited short-term impact.

What happened? The FCC announced on July 28, that it would include foreign-made advanced robotic devices into the covered list. This refers to mechanical mobile devices, specifically AMR, humanoid robots, and quadrupeds, that: 1) are capable of locomotion, obstacle avoidance, navigation, or movement; 2) operate at a distance from a human operator in response to sensor data; 3) weigh over 4.4 lbs; and 4) contain sensors perceiving the environment, network connectivity, and autonomous control/data collection software. We believe this effectively includes robot vacuums and mowers. The addition prohibits FCC authorization, generally blocking importation, marketing, or sale in the US. Robots that had already received FCC authorization are not affected, with a waiver to receive basic software updates. While there is no direct ban on components, to get FCC authorization and avoid being defined as "foreign produced," robots must be US-assembled with 65% domestic value, rising to 75% by 2029.

Our US embodied AI and robotics team believes this could provide meaningful protection for US robot manufacturers, but may also raise R&D costs (inexpensive China-made humanoids are heavily used for model research even in the US) or slow adoption if restrictions expand into Chinese-made components and manufacturing partnerships. From their conversations with those in the field, China-made robots (particularly Unitree) are used by a large percentage of US research labs given their low cost and high availability.

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Further impacts

We see limited near-term impacts on Chinese robots, but a more meaningful impact on long-term roadmaps.

1) For humanoid / quadruped robots - We expect limited immediate financial impact as the US remains primarily a research market, not a deployment market. However, the FCC restriction could reduce Chinese companies' ability to participate in future generations of the US embodied AI ecosystem and penetrate this large, high-value market. According to Unitree's latest prospectus, its robots with existing FCC authorization, including G1, H2, R1 humanoid robots, and Go2, B2, A2 quadruped robots are not restricted. But future models require new authorization to gain access to the US market, which is now more difficult. Based on our checks with several China humanoid robot companies, their US exposure remains small, mainly sales to research institutions and tech companies for internal R&D, with no US production plans for now.

2) For other intelligent robots, which already have sizable business in the US - such as autonomous mobile robots (AMR), vacuum robots, etc., the near-term financial impact is likely bigger vs. humanoids. Although existing FCC-approved products are not affected, the prohibition of new products will likely reduce Chinese product competitiveness in the US, in our view. Therefore, we think there is a likelihood that localised production in the US will take place. Geekplus and Navimow (the lawn mower subsidiary of Ninebot) have stated that their existing robots are not affected. In response to this announcement, Geekplus said it plans to establish US capacity, although most companies (e.g., Ecovacs, Roborock, Dreame) haven't publicly commented.

3) In the long term, intelligent robot roadmap could evolve differently. For humanoid integrators, we think it is likely too early to build overseas capacity given fast product iteration and small volume. On the other hand, component suppliers are already planning overseas capacity in the US or other countries, such as Leaderdrive's JV with Minth. We believe US integrators remain a key target for suppliers to penetrate, and wonder if non-US humanoid brands will more actively establish US capacity when US supply chain availability improves. We think it is more likely in the longer term, when US demand reaches a level that justifies investment. However, for now, given the current FCC restrictions, it could reduce US researchers' model training on Chinese humanoid robots and further separate US and China humanoid ecosystems.

- **Learning from mature industries such as EV and construction machinery** - While there is no direct ban on foreign-produced EVs and construction machinery in the US, tariffs, geopolitical risks, and the [Buy America Act](#) (Federal procurement rules, with a current 65% domestic threshold and 75% by 2029) have pushed for local production. US and foreign companies are establishing larger US capacity to lower the risk. For example, [Hyundai Motor Group](#) opened its Georgia Metaplant in March 2025 as part of a US\$12.6bn investment. [Volvo](#) has invested US\$40mn in Shippensburg, Pennsylvania, to add capabilities for mid- to large-size excavators and wheel-loaders. [Komatsu](#) has also expanded North American manufacturing, remanufacturing, and service ability in US, [in 2026](#).

We remain positive on China robots' global competitiveness supported by the broader

ecosystem. Despite challenges, we see China's advantages in robotics as: (1) rich applications and strong adoption willingness to support initial deployment and data accumulation, (2) integrated ecosystems and extensive players across the value chain, (3) manufacturing know-how converting to robots, (4) cost advantages, and (5) continued government support.

In the near term we continue to see catalysts for China's humanoid robot supply chain:

After sector weakness in recent months, we see several [upcoming catalysts](#) that could drive performance, these include Unitree's IPO (price inquiry on Aug 5, subscription on Aug 10, listing date not yet confirmed), the World Robotics Conference (Aug 19-23), and the World Humanoid Robot Games (Aug 22-26), both taking place in Beijing. We continue to prefer leading component players, including Leaderdrive, Hengli Hydraulic, and Shuanghuan.

As the industry accelerates and continues to ramp up, we think this could be the beginning of US and China embodied AI competition escalation.

Could the US extend restrictions to existing FCC-approved advanced robot devices?

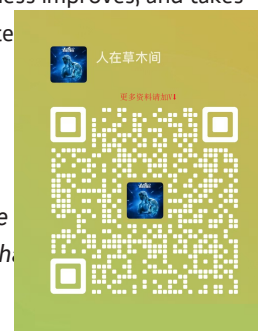
We think this is a risk, as robotics, a key physical AI interface, possess stronger abilities, data vulnerability, and are set to replace human workers as populations age and labor forces decline. If this were to take place, it would further limit China players' access to the US market.

- *Learning from drones, we note that on [December 2025](#), the FCC included foreign-made consumer drones onto the covered list. On [17 July](#) and [22 July 2026](#), the FCC strengthened this ban to: (1) previously approved products, (2) components made by certain entities, and (3) requiring online marketplaces to display matched FCC ID.*

Could the US restrict robot compute and development tool exports? China's humanoid integrators still heavily rely on US chips for model training and edge/on-device computing, as well as simulation tools. From our conversations with integrators, the performance gap between US and China robotics chips persists, but many China robot integrators have started testing Chinese local chips for edge/on-device computing. With robotics as a next-gen AI application, we note there are risks that the US could broaden AI chip export and software controls (similar to US restrictions on advanced AI chips and related development software, namely EDA) to robotics chips, to limit China's robot "brain" development.

Could other countries implement restrictions on China's intelligent robots? We see fewer risks of this occurring given labor shortages, especially in DMs, but we cannot rule it out. We note that many countries are placing increasing importance on robotics policy, including Korea's [AI Robot M.AX Alliance initiative](#), and Japan's target to deploy [10mn robots by 2040](#). Therefore, as China humanoid/robot competitiveness improves, and takes share globally, it is possible that other countries may move to protect their robotics industries.

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Valuation Methodology and Risks

Zhejiang Shuanghuan Driveline Co. Ltd. (002472.SZ)

We apply a 25x 2026e P/E for the core business, which we view as appropriate to use 25x (5-year average FY1 P/E) considering the sustained growth across business lines. In terms of humanoid potential, we use 6x P/S on Rmb1.1bn sales when global humanoid sales exceeded 1mn units to derive a humanoid business value, which is justified by a longer application timeline for new reducers but higher growth potential.

Risks to Upside

- Increasing penetration of dual/tri-motor and coaxial gearboxes
- Faster capacity expansion overseas, capturing more overseas OEMs' demand
- Faster-than-expected intelligent actuator growth driven by diversifying downstream
- Faster-than-expected progress of humanoid reducers

Risks to Downside

- Slower-than-expected share gains
- Weaker-than-expected overseas market demand
- Intensifying gear and actuator competition in China

Beijing Geekplus Technology Co., Ltd. (2590.HK)

Base case. We now value the company at 5.6x 2026E P/S. We believe this is appropriate based on a blended framework: 50% weighting on humanoid and autonomous driving peers' average multiple of 8.3x, with a 20% discount applied, and 50% weighting on logistics and warehouse automation peers' average multiple of 4.6x.

Risks to Upside

- Market share gain opportunity with margin expansion
- Faster-than-expected adoption of embodied AI solution
- Key client acquisition in broader regions
- Stronger sentiment in robotics

Risks to Downside

- End of lock-up period
- Slower-than-expected order intake growth amid geopolitical tension
- Higher-than-expected embodied AI investment
- Weakening sentiment in humanoids/robotics and AI

Jiangsu Hengli Hydraulic Co.Ltd (601100.SS)

Our price target is derived by 1) applying a 35x 2026e P/E multiple to its core business (excl. FX impact); and 2) using DCF for the humanoid robot parts business, discounting 2025-50e cash flows at a WACC of 11% and applying a terminal growth rate of 4%. Combining both yields a price target of Rmb133.

Risks to Upside

- Stronger-than-expected excavator and pumps & valves demand.
- Notable penetration into foreign brands' supply chain.
- Faster-than-expected humanoid robots penetration and market share gain in the supply chain.

Risks to Downside

- Sharp decline in excavator and pumps & valves demand in China.
- Failure to expand its share in non-excavator parts.
- Slower-than-expected humanoid robot penetration.

Leader Harmonious Drive Systems (688017.SS)

Base case. We use DCF to value Leaderdrive, by discounting 2025-50e cash flow at a WACC of 11% and terminal growth rate of 4%, to derive per share value of Rmb631.

Risks to Upside

- Faster growth in industrial robot demand
- Faster humanoid adoption
- Penetrating into more integrators' supply chain
- Margin expansion with high utilization and favorable product mix

Risks to Downside

- Slower humanoid volume growth
- Lower penetration of harmonic reducers in humanoids
- Market-share erosion and failure to enter leading US integrators' supply chain
- Intensified competition, greater pricing pressure