BearBull Global Investments Group

MACRO RESEARCH INSIGHT

CROSS-ASSET ANALYSIS — *ROBOTICS & AI*

October 2026



ROBOTICS: THE FUTURE OF ARTIFICIAL INTELLIGENCE – Part 2

- ✓ An optimal strategy built on two complementary engines
- ✓ Critical components: a genuine bottleneck and a source of profitability
- ✓ Positioning across the entire value chain to optimize the risk/return profile

ROBOTICS: THE FUTURE OF ARTIFICIAL INTELLIGENCE – Part 2

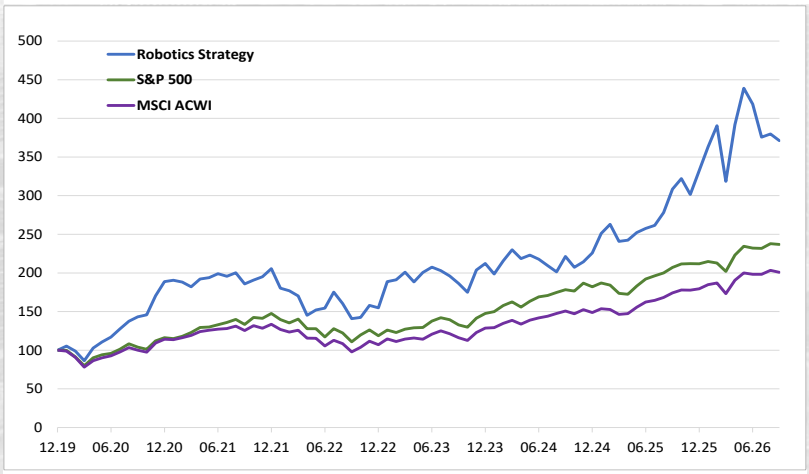
Balanced Portfolio Captures Dual Robotics Engines

Our Robotics & Physical AI strategy combines traditional industrial automation with emerging humanoid robotics across the full value chain. Industrial robotics provides recurring revenue, established profitability, and downside protection via leaders like Fanuc, Yaskawa, and Teradyne. Concurrently, humanoid pure-plays like UBTech, Rainbow Robotics, and Dobot offer high-upside exposure to physical AI adoption. By balancing profitable legacy automation with capital-intensive humanoid innovation, the portfolio maintains structural stability while capturing secular growth across both horizons.

Critical Components Control Supply Chain Bottlenecks

Mechanical components and actuators represent 40% to 60% of a humanoid robot's manufacturing cost, creating a highly profitable oligopoly for specialized suppliers. Industry leaders including Harmonic Drive, Nabtesco, THK, Hiwin, and Sanhua benefit from micron-level manufacturing tolerances, rigorous qualification testing, and specialized tooling barriers. Furthermore, these suppliers serve both traditional industrial arms and multi-jointed humanoid systems, ensuring volume growth regardless of which end-market scales faster. Consequently, component specialists generate resilient, high-margin cash flows without binary execution risk.

Robotics Strategy vs S&P 500 and MSCI ACWI (base 100)



Sources : Bloomberg, BBGI Group

Strategic Segmentation Optimizes Regional Value Allocation

The implementation spans 30 companies across four core segments: components, complete systems, semiconductors/perception, and software platforms. Geographic allocation maintains a near-balance between Japan's precision engineering leadership and China's humanoid manufacturing hub, deliberately under-weighting U.S. equities relative to generic thematic ETFs. While system integrators capture direct end-user demand and semiconductors provide foundational compute via Nvidia and TSMC, component suppliers form the core investment thesis. Meanwhile, software allocation remains selective until private foundation model developers enter public equity markets.

Industrial Cushion Drives Positive 2026 Returns

Year-to-date performance in 2026 demonstrates the structural resilience of this dual-engine portfolio, generating an 8.5% return in USD (+9.1% in local currencies) through mid-October. Holdings tied to industrial automation surged approximately 25%, offsetting a 31% decline in direct humanoid exposures and a 50% drawdown in Hong Kong-listed Chinese pure-plays. Precision component suppliers served as the strongest performance driver (+21%), led by substantial gains from Hiwin (+69%), THK (+67%), and Harmonic Drive (+57%). Ultimately, the profitable industrial base successfully cushioned early-stage humanoid volatility, proving the strategy's risk-adjusted balance.

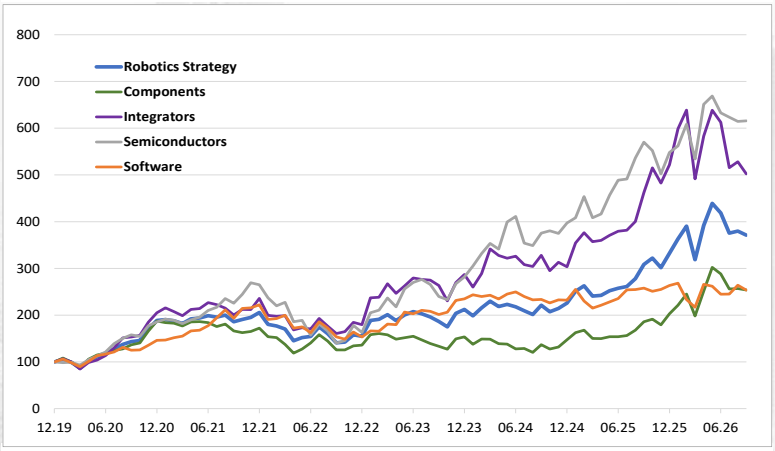
Semiconductor Infrastructure Powers Perception and Compute

Semiconductors and perception hardware act as the essential computing backbone across all robotic forms, returning +15% year-to-date. Compute requirements span centralized AI model training, digital twin simulation, and real-time edge processing via platforms like Nvidia's Jetson Thor. Global foundry leader TSMC (+46%) and sensor specialists such as STMicroelectronics (+99%) and Keyence (+41%) continue to capture structural spending across physical AI workloads. Because advanced robotic systems require increasing silicon content per unit, semiconductor suppliers remain core long-term beneficiaries.

Software Platforms Positioning Future Expansion

The software and platforms segment delivered a modest +3% return year-to-date, constrained by public equity market exposure to pure-play robotic AI models. Major technology enablers like Alphabet (+13%) support the software layer, whereas premier robotic foundation model developers remain largely funded through private venture capital. Private funding for robotic AI models expanded from $0.1 billion in 2021 to $6 billion in 2025, signaling an expanding pipeline of future IPO candidates. As these specialized physical AI software developers go public, the portfolio is structured to selectively increase software weightings.

Robotics Strategy and its four segments (base 100)



Sources : Bloomberg, BBGI Group

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