

HUMANOID ROBOTS: THE NEXT FRONTIER IN TECHNOLOGY INVESTING



Alain Frigerio

Research and Product Manager

Once confined to science fiction, humanoid robots are fast becoming reality. From space travel to voice assistants, History shows that what we imagine, we often build. Today, humanoid robots are the next great leap, emerging from labs into factories and investment portfolios. In 2025, they are walking, talking, and working prototypes, thanks to breakthroughs in AI and robotics. This is a new frontier, unlocking fresh opportunities for early investors.

BEYOND INDUSTRIAL ARMS

Humanoid robots are mobile, AI-powered machines designed to replicate human form and function, enabling them to operate in dynamic, human-centric environments. Unlike traditional industrial robots that are fixed and task-specific, humanoid robots “humanoids” are general-purpose, reprogrammable, and capable of performing a wide range of tasks - from logistics and manufacturing to healthcare. Their human-like design allows them to navigate spaces built for people without costly modifications, and their ability to interact socially makes them ideal for roles like caregiving or customer support.

THE EXPANDING JOB DESCRIPTION OF ROBOTS

Demand for humanoids is increasing across industries including warehousing, manufacturing, and automotive assembly. In services, they’re being developed for elderly care, hospitality, retail, and security. In the long term, they could assist with household chores and personal support. The most immediate traction is expected

in logistics and automotives, where they can take on repetitive, physically demanding tasks. By 2035, Goldman Sachs projects annual shipments could reach 1.4 million units, with consumer adoption accelerating after 2030. At the more imaginative end of the spectrum, Elon Musk has floated the idea of over 10 billion humanoid robots by 2040, outnumbering the human population.

GLOBAL MARKET MOMENTUM

Development is accelerating, fuelled by advances in AI, falling hardware costs, labour shortages, and growing investment from both public and private sectors. The global market, which was valued at \$1.55 billion in 2024, is projected to surpass \$4 billion by 2030 and potentially reach \$38 billion by 2035, according to Goldman Sachs. Fortune Business Insights forecasts even faster growth, estimating \$66 billion by 2032. Generative AI is a key catalyst, with China and the US leading global innovation and accounting for the majority of AI intellectual property and foundational models.

"In the long term, robots could assist with household chores and personal support."

Startups, accessible only via the private equity market, are driving much of the innovation, with companies like Figure AI, Agility Robotics, Appteronik, and Unitree gaining traction through active deployments and advances in affordability, mobility, and general-purpose design. Meanwhile, the most investable players remain large-cap public companies with strong R&D and manufacturing capabilities: Tesla is developing Optimus Gen 2, Nvidia powers most platforms with its AI chips, Alphabet advances robotics software, Amazon integrates automation into logistics, and Hyundai and ABB are expanding into mobile robotics. Component suppliers also offer compelling opportunities across the ecosystem, with large-cap names such as Fanuc, Keyence, and Rockwell Automation providing critical technologies in motion control, sensing, and industrial automation.

CHALLENGES AND OPPORTUNITIES

Despite rapid progress, key challenges remain, from achieving human-level dexterity, autonomy, and energy efficiency to managing high R&D costs and regulatory uncertainty around safety and labour impact. Yet, these concerns come with opportunity; rather than replacing humans, robots can enhance jobs by improving safety, efficiency, and fulfilment. As they take on hazardous or repetitive tasks, new roles in training, oversight, and collaboration will emerge, keeping humans central to the evolving workforce while boosting productivity and customer experience.

Humanoids aren’t just a passing trend; they could mark a shift in how we define and deliver labour. For forward-looking investors, this is a rare chance to get in early on a transformative theme. The moment to consider positioning for a more robotic and investable future is now.



REYL
INTESA SANPAOLO

IMPORTANT INFORMATION - This content is being provided by REYL & Cie Ltd or/and its affiliates (hereinafter referred to as "REYL") solely for information purposes and is not intended to be a solicitation or offer, recommendation or advice to buy or sell interests in any financial instrument mentioned in it, to effect any transaction, or to conclude any transaction of any kind whatsoever, in particular to any recipient who is not a qualified, accredited, eligible professional or institutional investor. It is intended for the sole use of the recipient and may not be forwarded, printed, downloaded, used or reproduced for any other purpose. It is not intended for distribution/offering to, or use by, natural or legal persons that are nationals of a country or subject to a jurisdiction of which the laws or regulations would prohibit such distribution/offering or use. Whilst REYL shall use reasonable efforts to obtain information from sources which it believes to be reliable, REYL, its directors, officers, employees, agents or shareholders assume no liability regarding this content and give no warranty as to the accuracy, completeness or reliability of any mentioned data and thus assume no liability for losses arising from the use of this content. The information, opinions and assessments contained in the present document shall apply at the time of publication and may be revoked or changed without prior notice. This content is intended only for recipients who understand and are capable of assuming all risks involved. Before entering into any transaction, recipients should determine if the relevant financial instrument mentioned in the content suits particular circumstances and should ensure that they independently assess (together with their professional advisers) the specific risks, the legal, tax, accounting consequences and eligibility requirements of any purchase, holding or sale of financial instruments mentioned in the content. REYL, its directors, officers, employees, agents or shareholders may from time to time have interests and/or underwriting commitments in the financial instruments described herein. REYL makes no representation as to the suitability of the mentioned information, opinions or securities and financial instruments. Historical data on the performance of the financial instruments or on the underlying assets are no indication for future performance. The present content has been compiled by a department of REYL which is not an organisational unit responsible for financial research. REYL is subject to distinct regulatory requirements and certain services and/or financial instruments may not be available in all jurisdictions or to all recipient types. Recipients are therefore responsible to comply with all applicable laws and regulations. There is no intention to offer services and/or financial instruments in countries or jurisdictions where such offer would be unlawful under the relevant laws and regulations.



SUCCESS. TOGETHER.