Global Humanoid Robots Market Research Report, by Component (Actuator, Control System, Power Source, Sensor), Motion (Bipedal), Application (Education & Entertainment, Personal Assistance, Public Relation, Research & Space Exploration) — Forecast till 2023

Market Scenario

Humanoid robots are anthropomorphized robots with human like senses. Humanoid robot developers work on solving issues which include bipedal locomotion, dexterous manipulation, audio-visual perception, human-robot interaction, adaptive control and learning, targeted for the application in humanoid robots. The humanoid robot development industry constantly works on making robots that can work in close cooperation with humans in the same environments which are designed to suit human needs. The successful implementation of specialized industrial robots for industrial mass production has led to the development of general-purpose humanoid robots for a new set of applications. Humanoid robots are designed based on human-centered body design for it to have human like movements to adapt to a world designed for humans. Development in humanoid robots is moving in a direction to make them capable of having intuitive communication with human by analyzing and synthesizing speech, eye-movements, and mimicking gestures, and body language.

Humanoid robots have a variety of applications in education and entertainment, research & space exploration, search and rescue, retail, public relations, and personal assistance & caregiving among others. Humanoid robots in retail deal with customer care and distribution process. Humanoid robots can have crucial applications in military search and rescue operations as their motion and durability can allow them to reach where humans cannot. Humanoid robots in public relations can answer customer queries and guide them to improve overall customer experience.

Development in artificial intelligence, machine learning, IoT, machine vision through AI, natural language processing is driving the growth of humanoid robot market as the entire working of humanoid robots is based on these technologies. The functions of humanoid robots that are still in development stage include bipedal locomotion, perception, dexterous manipulation, human-robot interactions and robot learning and adaptive behavior. Increasing demand to enhance customer experience, declining costs of hardware components used in robots, increasing adoption of humanoid robots in education and healthcare and surge in applications of humanoid robots for military and defense are the factors currently driving the humanoid robot market. However, high R&D budgets required for the development of humanoid robot technology is a restraining factor for the growth of humanoid robot market. High initial cost of humanoid robots and technical challenges in bipedal motion and human-robot interactions can also hamper the growth of humanoid robot market.

By Segments

The global humanoid robot market is segmented based on component, motion, application, and region.

By component, the global humanoid robot market is segmented into software and hardware. The hardware segment is further sub-segmented into sensor, actuator, power source, control system and others.
By motion, the global humanoid robot market is segmented into bipedal and wheel drive.

By application, the global humanoid robot market is segmented into education and entertainment, research & space exploration, search and rescue, public relations, retail, personal assistance & caregiving and others.

**Key players**

The key players in global humanoid robot market are DST Robot Co., Ltd (South Korea), Engineered Arts(UK), Hajime Research Institute(Japan), Hanson Robotics(Hong Kong), Honda Motor Co., Ltd.(Japan), Istituto Italiano Di Tecnologia(Italy), Kawada Robotics (Japan), Pal Robotics(Spain), Qihan Technology Co.(China), Robo Garage Co.(Japan), Samsung Electronics(South Korea), Toshiba (Japan), Ubtech Robotics(US), WowWee Group Limited(Hong Kong), SoftBank Robotics Corp. (Japan)., ROBOTIS(Republic of Korea), Willow Garage(US), Toyota Motor Corporation(Japan).

The prominent players keep innovating and investing in research and development to present a cost-effective product portfolio. There have been many key developments in the products that the key players offer in terms of database automation.

**Regional analysis**

The regional analysis for global humanoid robot market is done for North America, Europe, Asia-Pacific, and rest of the world.

Asia-Pacific dominates the global humanoid robot market. The increasing demand for enhancing customer experience in countries like China and Japan is driving the growth of humanoid robot market in this region. Presence of majority of key players of the global humanoid market in the region is also driving the growth of this market in Asia-Pacific.

Europe contributes significantly to the global humanoid robot market. The presence of key players along with technological advancement and growth in development of artificial intelligence in the region is driving the growth of humanoid robot market.

**Intended Audience**

- Robotics solution providers
- OEMs
- Software integrators
- Technology investors
- Regulatory industries
- Artificial intelligence developers
- Associations and forums related to Humanoid robots
- Government bodies
- Market research firms
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