Warehouse Robotics Market Estimated Growth from USD 4.88 Billion in 2023 to USD 14.52 Billion by 2030 | CAGR of 12.88%

According to a research report published by Exactitude Consultancy, the Companies covered were ABB, Honeywell, KUKA AG, OMRON Corporation, Fetch Robotics, Inc.


Warehouse robotics

LUTON, BEDFORDSHIRE, UNITED KINGDOM, September 3, 2024 /EINPresswire.com/ -- □□□ □□□□□□□□□□ □□□□□□□□□ □□□□□□□ □□ □□□□□□□□□ □□ □□□□ □□ □□.□□% □□□□ □□□□ □□□□ □□ □□□□. □□ □□□ □□□□□□□ □.□□ □□□□□□□□ □□ □□□□. □□ □□ □□□□□□□□□ □□ □□□□□ □□□□□ □□□ □□.□□ □□□□□□□□ □□ □□□□.

Warehouse robotics refers to robots made especially for use in warehouse environments. Over the next few years, the logistics sector's increasing need for automation is anticipated to largely boost warehouse robotics sales. The increasing global adoption of warehouse robotics is also said to be largely due to labor shortages and growing labor expenses. Technological developments in robotics combined with a strong focus on enhancing the effectiveness of global logistics operations are expected to support market expansion in the years to come. The main advantages of warehouse robotics that open up new business prospects for market participants are lower operating costs and increased worker productivity and safety. However, it is anticipated that lengthy deployment and maintenance expenses as well as intricate integration may impede the long-term adoption of warehouse robotics.

> The warehouse robotics market is growing rapidly due to increasing e-commerce demand, labor shortages, and the need for efficient inventory management”
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> *Exactitude Consultancy*

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Industrial and service robots used in warehouse operations to carry out different activities like picking, sorting, packaging, and transportation are included in the field of warehouse robotics. These self-governing devices aim to boost warehouse productivity by substituting labor-intensive tasks with automated ones. The need for robots like articulated arms, autonomous guided vehicles (AGVs), and automated mobile robots (AMRs) for heavy lifting and carrying tasks is being driven by technological developments in robotics and warehouse automation. Robotics in warehouses are becoming more and more common due to significant investment from e-commerce corporations. Robots in warehouses optimize storage spaces and boost efficiency, which lowers operating expenses for warehouse owners in the long run. Robotics are becoming more and more necessary in a variety of end-use industries as automation spreads quickly throughout businesses and nations with developing technology.

Warehouse robotics is in high demand due to factors like workforce shortages, growing automation adoption, expanding e-commerce investments and adoption across geographies, and the introduction of integrated, cost-effective solutions for warehousing operations. The implementation of robotics in warehouses has yielded numerous advantages for the end-user sector. These include enhanced warehouse productivity, decreased processing times, effective inventory control, decreased operational expenses, and enhanced flexibility in handling client demands. The growing trend of online shopping among various demographic groups worldwide is propelling warehouse automation, resulting in a notable need for robots such as articulated arms, AMRs, and AGVs. Thus, the market expansion for warehouse robotics is being facilitated by the previously mentioned aspects.

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ABB, Honeywell Intelligrated, KUKA AG, OMRON Corporation, YASKAWA ELECTRIC CORPORATION, Fetch Robotics, Inc., Bastian Solutions, Inc., Daifuku Co., Ltd., Dematic, and KNAPP AG.

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In 2023, Honeywell International Inc. inaugurated a cutting-edge research and development facility aimed at advancing its technology, benefiting warehouse and logistics firms across Europe. The market is poised for growth with an uptick in such developments enhancing operational efficiency

In May 2023, KUKA (Germany) launched the KR CYBERTECH series Edition robot making it the perfect choice for cost-effective automation of handling and basic machining tasks. The multi-talented KR CYBERTECH feeds components into assembly processes, checks workpiece quality, and grinds and polishes metal parts. Its flexibility makes it particularly popular in a wide range of

industries, including the dynamic metal and electronics industries.

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Warehouses require various systems for material handling, including sorting, packaging, storage, and picking systems. Robots are becoming more and more common among warehouse personnel to handle large materials. Mobile robots, such as AMRs and AGVs, can carry out monotonous jobs and move goods from one location to another fast and precisely, which improves product distribution and boosts space efficiency.

Automation is becoming more and more necessary as Industry 4.0 becomes more widely implemented. This means that warehouse robotics—such as robotic arms, picking, sorting, and material handling systems—are required. Owners and operators of warehouses are being pushed to maximize their available capacity by the sharp rise in demand for warehouse space. Mobile robots lower long-term operating costs, allow warehouse operations to scale in response to shifting consumer demands and reallocate personnel to productive duties. Robotic-assisted automated warehouses employ less space per unit of products, minimizing product damage and saving energy.

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Warehouse robots improve safety standards by reducing the likelihood of workplace accidents and injuries by automating jobs that are typically performed by humans. Because they operate in regulated environments, robots lessen the number of hazardous circumstances that humans are exposed to, making the workplace safer. This risk reduction emphasizes how important robotics is to raising overall warehouse safety. Smart warehouse ecosystems are fostered by the seamless integration of warehouse robotics with IoT, cloud computing, and big data analytics. For example, cloud computing makes it easier to store and interpret data for better decision-making, while the Internet of Things sensors on robots allow inventory levels to be monitored in real time.

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Robots increase warehouse productivity by performing order picking, packing, and inventory management operations with accuracy and consistency. Because of their dependability, accuracy is increased, errors are reduced, and operational flow is optimized. Increased productivity in warehouse operations is the result of these improved efficiencies, which also lead to more efficient processes and quicker order fulfillment.

The combination of Industry 4.0 and warehouse robots is driving the transformation of conventional warehouses into intelligent, networked automated facilities. Although the

automotive industry has been a leading user of robotics, other industries, including food processing, pharmaceutical manufacturing, metal fabrication, and packaging, are realizing the benefits of warehouse robots and expanding their use. The goal of Industry 4.0 is to provide a working environment where people and robots can work together, with robots being able to react to their environment and receive instructions.

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Employees who fear unemployment and labor unions oppose the integration of robots in warehouses because it creates concerns about job displacement. Opposition to automation programs may stem from a fear of technology substitution and how it would affect people's means of subsistence. To prevent workforce displacement and facilitate seamless labor market transitions, addressing these problems would need proactive actions.

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Purchasing and installing robotic systems will cost a large sum of money upfront, which will affect financial planning when implementing warehouse robots. This costs money, which is a big barrier for smaller companies or those with less capital, and can make it harder for them to deploy robotics technology to improve warehouse productivity.

Changes in market regulations, strategic market growth analysis, market size, category market growths, application niches and dominance, product approvals, product launches, geographic expansions, import-export analysis, production analysis, value chain optimization, market share, the impact of domestic and localized market players, and technological innovations in the market are all covered in detail in this report on the market.

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Asia Pacific is expected to emerge as the dominant market for warehouse robotics companies in the world. The region is expected to generate significant income in the future due to several variables, including the presence of major robot manufacturers, the increasing adoption of automation in warehouses, and the growing need for same-day delivery. According to estimates, the most profitable markets in this area for warehouse robotics companies are China, India, and Japan. The swift growth of online and brick-and-mortar stores in Latin American nations is opening up new markets for suppliers of warehouse robotics. The millennial population is expected to grow and robotics will become more widely accepted in the future, which will increase demand for warehouse robotics. In this region, Brazil is expected to prove to be the most advantageous market.

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The Warehouse Robotics Market is categorized by various robot types, respectively playing a serious role in automating warehouse operations. Mobile Robots, essential for transporting goods across the warehouse, are projected to dominate both in revenue and unit sales. Articulated Robots, known for their versatility and range of motion, are increasingly used for tasks such as picking and packing. Cylindrical Robots, which have a rotary joint at the base and a prismatic joint to connect the links, are utilized for handling and positioning tasks. SCARA Robots (Selective Compliance Articulated Robot Arm) offer precision in high-speed assembly operations. Parallel Robots, featuring multiple arms, are favored for fast and accurate placement and sorting tasks. Cartesian Robots, characterized by their linear movement, are commonly used for heavy-load transportation and palletizing. The demand for these robots is expected to increase significantly. driven by the rising adoption of automation technologies in warehouse management.

Higher order fulfillment times and lower labor costs are expected to fuel growth in the autonomous mobile robot market. Because of the increasing requirement for higher stock-picking rates, articulated robot demand is expected to increase throughout the forecast period.

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The Warehouse Robotics Market is categorized by Application and E-Commerce sector, warehouse robotics are increasingly deployed to handle the rapid fulfillment of orders, ensuring quick and efficient inventory management and shipping processes. The Automotive industry utilizes robotics for parts handling and assembly processes, optimizing storage and distribution of heavy components. In Consumer Electronics, robots assist in the delicate handling and sorting of small, sensitive items to maintain product integrity. The Food & Beverage industry benefits from robotics for handling perishable items, ensuring they are stored and retrieved efficiently to maintain freshness. In Healthcare, warehouse robots are used for the safe storage and retrieval of medical supplies and pharmaceuticals, minimizing human error and ensuring hygiene. The Others category covers a range of sectors, including retail and logistics, where robotics is applied to improve operational accuracy and efficiency in order realization and inventory management.

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Warehouse Robotics Market by Product, 2020-2029, (USD Billion, Thousand Units)

Mobile Robots
Articulated Robots
Cylindrical Robots
Scara Robots
Parallel Robots
Cartesian Robots

Warehouse Robotics Market by Function, 2020-2029, (USD Billion, Thousand Units)

Pick & Place
Palletizing & De-Palletizing
Transportation
Packaging

Warehouse Robotics Market by Payload Capacity,2020-2029, (USD Billion, Thousand Units)

Below 10 Kg
11 Kg To 80 Kg
81 Kg To 400 Kg
401 Kg To 900 Kg
Above 900 Kg

Warehouse Robotics Market by Software, 2020-2029, (USD Billion, Thousand Units)

Warehouse Management System
Warehouse Control System
Warehouse Execution System

Warehouse Robotics Market by Application, 2020-2029, (USD Billion, Thousand Units)

E-Commerce
Automotive
Consumer Electronics
Food & Beverage
Healthcare
Others

Warehouse Robotics Market by Region, 2020-2029, (USD Billion, Thousand Units)

North America

Asia Pacific
Europe
South America
Middle East and Africa

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What is the global market size of the Warehouse Robotics Market?

Who are the key vendors in the Warehouse Robotics Market?

What is the key driver of the Warehouse Robotics Market?

What is the key market trend for the Warehouse Robotics Market?

Which region accounted for the largest share in the Warehouse Robotics Market?

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The unmanned ground vehicles market is estimated to be USD 2.54 billion in 2023 and is projected to reach USD 3.91 billion by 2029, at a CAGR of 6.5% from 2022 to 2029.

https://exactitudeconsultancy.com/reports/18995/unmanned-ground-vehicles-ugv-market

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The Intelligent Motor Control Center Market is expected to grow at 9.9% CAGR from 2022 to 2029. It is expected to reach above USD 23 billion by 2029 from USD 10.95 billion in 2023.

https://exactitudeconsultancy.com/reports/22924/intelligent-motor-control-center-market

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The electronic braking systems (EBS) market is expected to grow at 5.48% CAGR from 2022 to 2029. It is expected to reach above USD 5.12 billion by 2029 from USD 3.07 billion in 2023.

https://exactitudeconsultancy.com/reports/21663/electronic-braking-systems-ebs-market/

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The In-vehicle camera digital sensor processor market is expected to grow at 6% CAGR from 2022 to 2029. It was valued nearly 8.5 billion at 2023. It is expected to reach above USD 14.36 billion by 2029.

https://exactitudeconsultancy.com/reports/21684/in-vehicle-camera-digital-sensor-processor-market/

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The global passenger car black box market is projected to reach USD 4.76 billion by 2029 from USD 2.62 billion in 2023, at a CAGR of 7.4 % from 2022 to 2029.

https://exactitudeconsultancy.com/reports/21713/passenger-car-black-box-market/

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The automotive steering systems sales market is expected to grow at 4.5% CAGR from 2022 to 2029. It is expected to reach above USD 42.23 billion by 2029 from USD 28.42 billion in 2023.

https://exactitudeconsultancy.com/reports/20873/automotive-steering-systems-sales-market/

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The robotic welding market is expected to grow at 8.5% CAGR from 2023 to 2029. It is expected to reach above USD 9.8 billion by 2029 from USD 4.7 billion in 2023.

https://exactitudeconsultancy.com/reports/23866/robotic-welding-market/

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The Aircraft Communication System Market is expected to grow at 9.5% CAGR from 2022 to 2029. It is expected to reach above USD 14.16 billion by 2029 from USD 7.5 billion in 2022.

https://exactitudeconsultancy.com/reports/17889/aircraft-communication-system-market/

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The Industrial Control and Factory Automation Market Is Expected to Grow At 10.5% CAGR From 2022 To 2029. It Is Expected to Reach Above USD 297.51 Billion By 2029 From USD 129.1 Billion In 2023.

https://exactitudeconsultancy.com/reports/24982/industrial-control-and-factory-automation-

market/

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The Service robotics market is expected to grow at 25% CAGR from 2022 to 2029. It is expected to reach above USD 161.68 billion by 2029 from USD 21.7 billion in 2023.

https://exactitudeconsultancy.com/reports/15736/service-robotics-market/

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