Collaborative Robot Market by Payload (Up to 5 kg, 5-10 kg, 10-25 kg, & More than 25 kg), Application (Handling, Assembling & Disassembling, Dispensing), Industry (Automotive, Electronics, Metals & Machining) & Region - Global Forecast to 2030

Market Report | 2024-04-01 | 372 pages | MarketsandMarkets

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Report description:

The Collaborative Robot market is projected to grow from USD 1.9 billion in 2024 and is projected to reach USD 11.8 billion by 2030; it is expected to grow at a CAGR of 35.2% from 2024 to 2030. Growing focus of automation experts to pair robotic arms with mobile platforms such as AMRs or AGVs, growing number of subscriptions for Raas model, and rising demand for automation in healthcare industry to fuel the growth of Collaborative Robot market.

"The market for 5-10 kg segment to hold second-largest market share during the forecast period."

The deployment of collaborative robots (cobots) with a payload capacity ranging from 5-10 kg is instrumental in driving growth in the field of factory automation. These cobots showcase remarkable versatility, adeptly handling a diverse range of tasks such as material handling, assembly, machine tending, and packaging. Their optimal balance between payload capacity and cost-effectiveness makes them a valuable asset, contributing to increased productivity, faster cycle times, and overall efficiency in manufacturing processes. Beyond economic considerations, these cobots prioritize safety by working seamlessly alongside human operators, reducing the risk of workplace injuries and enhancing the ergonomic aspects of the factory environment. Known for their flexibility in deployment, adaptability to changing manufacturing needs, and collaboration with human workers, cobots within this payload range are not only transforming factory automation but also making it accessible to a broader spectrum of businesses, including small and medium-sized enterprises (SMEs). Their collective impact underscores a paradigm shift in modern manufacturing, emphasizing efficiency, safety, and flexibility.

"Assembling & Disassembling segment to hold the second-largest market share in the application in the Collaborative Robot market during the forecast period." Collaborative Robots (Cobots) play a pivotal role in enhancing the efficiency and precision of assembling and disassembling tasks, specifically in screwdriving and nut fastening applications. In screwdriving, Cobots exhibit exceptional precision, repeatability, and force control, ensuring accurate screw application without the risk of over-tightening or

stripping. Additionally, their ergonomic design reduces strain on human workers. For nut fastening, Cobots offer inherent safety features, allowing them to work in close proximity to humans, coupled with the strength and stability to handle higher torque requirements. Equipped with suitable end-effectors and programmed for specific tasks, Cobots can pick up, position, and tighten nuts with precision. Integration of vision systems further enhances accuracy, while adherence to safety protocols ensures seamless collaboration between humans and Cobots in the workspace.

"Market for electronics segment holds for second-largest market share during the forecast period."

Collaborative robots (cobots) play a crucial role in the electronics industry, particularly in handling small and delicate products with precision. Equipped with various sensors, these "sensitive robots" are well-suited for tasks such as product testing, quality control, and soldering PCBs. In product testing, cobots excel at inserting chips into testing machines and sorting them, reducing error margins and enhancing overall efficiency. The advantages of cobots in the electronics sector extend to augmenting human labor, accelerating manufacturing processes, boosting production capacity, and maintaining high product quality standards. Additionally, cobots contribute to worker safety by undertaking hazardous and repetitive tasks, allowing human workers to focus on more complex operations. In the fast-paced electronics industry, the agility of cobots is a key factor, enabling quick adaptation of assembly, testing, or packaging lines for new requirements. Their flexibility, ease of programming, and mobility make them valuable assets, with a potential return on investment typically realized in less than a year, even for small and mid-sized manufacturers.

"North America is expected to have the second-highest CAGR during the forecast period."

North America is one of the largest markets for collaborative robots. Collaborative robots are also increasingly being used in industries such as plastics, metals & machinery, and food & beverages in the region. North America comprises three countries-the US, Canada, and Mexico. Key players in this region are Rethink Robotics GmbH (US), Precise Automation (US), and Productive Robotics, LLC (US). Robotiq (Canada) is one of the key collaborative end effector manufacturers with headquarters based in this region. Prominent players in this region operating in the collaborative robot (cobot) market emphasize expanding their production capacities to cater to the market demand. For example, in March 2023, ABB (Switzerland) announced its plans to expand its business in US with the expansion of its existing robotics headquarters & manufacturing facility in Auburn Hills, Michigan. The project represents an investment of USD 20 million and is supported by a USD 450,000 Michigan Business Development Program performance-based grant.

Extensive primary interviews were conducted with key industry experts in the Collaborative Robot market space to determine and verify the market size for various segments and subsegments gathered through secondary research. The break-up of primary participants for the report has been shown below:

The break-up of the profile of primary participants in the Collaborative Robot market:

- By Company Type: Tier 1 - 40%, Tier 2 - 35%, and Tier 3 - 25%
- By Designation: C Level - 45%, Director Level - 35%, Others-20%
- By Region: North America - 30%, Europe - 22%, Asia Pacific - 40%, ROW- 8%

The report profiles key players in the Collaborative Robot market with their respective market ranking analysis. Prominent players profiled in this report are Universal Robots A/S (Denmark), FANUC CORPORATION (Japan), ABB (Switzerland), TECHMAN ROBOT INC. (Taiwan), and AUBO (BEIJING) ROBOTICS TECHNOLOGY CO., LTD (China), KUKA AG (Germany), Doosan Robotics Inc. (South Korea), Denso Corporation (South Korea), YASKAWA ELECTRIC CORPORATION (Japan), Rethink Robotics GmBH (Germany)among others.

Apart from this, Siasun. Robot & Automation Co., Ltd. (China), Franka Emika GmbH (Germany), Comau S.p.A. (Italy), F&P Robotics AG (Switzerland), Staubli International AG (Switzerland), Bosch Rexroth AG (Germany), Productive Robotics, LLC (US), NEURA Robotics GmbH (Germany), ElephantRobotics (China), Elite Robots (China), Niryo (France), Hanwa Corporation (South Korea), OMRON Corporation (Japan), Wyzo (Switzerland), MIP Robotics (France), Kawasaki Heavy Industries, Ltd. (US), Dobot (China), JAKA Robotics (China), Huiling Tech (China) are among a few emerging companies in the Collaborative Robot market.

Research Coverage: This research report categorizes the Collaborative Robot market based on payload, industry, application and region. The report describes the major drivers, restraints, challenges, and opportunities pertaining to the Collaborative Robot market and forecasts the same till 2029. Apart from these, the report also consists of leadership mapping and analysis of all the companies included in the Collaborative Robot ecosystem.

Key Benefits of Buying the Report The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall Collaborative Robot market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.
The report provides insights on the following pointers:
-□Analysis of key drivers (Higher return on investment than traditional industrial robotic systems, increased demand in e-commerce and logistics sectors, significant benefits in businesses of all sizes, and easy programming of cobots) influencing the growth of the Collaborative Robot market.
-□Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the Collaborative Robot market.
-□Market Development: Comprehensive information about lucrative markets - the report analysis the Collaborative Robot market across varied regions
-□Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the Collaborative Robot market
-□Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players like Universal Robots A/S (Denmark), FANUC CORPORATION (Japan), ABB (Switzerland), TECHMAN ROBOT INC. (Taiwan), and AUBO (BEIJING) ROBOTICS TECHNOLOGY CO., LTD (China) among others in the Collaborative Robot market.

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