

Robot Operating System Market by Robot Type (Articulated, SCARA, Cartesian, Collaborative, Autonomous Mobile, Parallel), Application (Pick & Place, Testing & Quality Inspection, Inventory Management), End User and Region - Global Forecast to 2028

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Abstracts

The robot operating system market is valued at USD 581 million in 2023 and is projected to reach USD 1,082 million by 2028, growing at a CAGR of 13.2% from 2023 to 2028. The complex design of modular robots and controlling electronics is one of the major restraints in the market's growth.

SCARA robot is expected to grow with significant CAGR during the forecast period.

The SCARA robots fall under the Selective Compliance Assembly Robot Arm or Selective Compliance Articulated Robot Arm. Mostly, the parallel axis jointed robots are termed SCARA robots. Owing to the parallel-axis joint layout, the arm is slightly compliant in the X-Y direction but rigid in the Z direction, and hence, these robots are selectively compliant. The SCARA robots are ideal for the workflow where high-speed operations and confined workspaces are required.

Collaborative robots to account for significantly high CAGR during the forecast period.

The market for collaborative robots is expected grow with significantly high CAGR during the forecast period. The adoption of collaborative robots have been increased in the recent years as it is very safe in performing light day to day task and is compatible with sensors, vision systems among others.

Domestic and personal robotics is expected to have a significant market share during the forecast period.

The domestic & personal robotics market includes service robots and personal assistant robot companions, among others. The service robot's robot operating system is employed to create service robots that assist with household chores such as cleaning, cooking, and organizing. By utilizing robot operating system libraries for navigation, perception, and manipulation, these robots can navigate around the home, recognize objects, interact with the environment, and perform specific tasks.

India to grow with the highest CAGR in the Asia Pacific region during the forecast period.

The market for robot operating systems in India is expected to record the highest CAGR during the forecast period. Many foreign manufacturers are setting up their manufacturing facilities in India as the Indian government levies high import tariffs on automotive vehicles and electronics. KIA Motors (South Korea) has invested in India to manufacture cars for sale within the country. Apple Inc. (US) has decided to manufacture smartphones in India with investments from Wistron (Taiwan) and Foxconn (China). Due to the large scale of operations, warehousing and packaging automation in India represents another opportunity for the market.

In the process of determining and verifying the market size for several segments and subsegments gathered through secondary research, extensive primary interviews have been conducted with key industry experts in the robot operating system space. The break-up of primary participants for the report has been shown below:

By Company Type: Tier 1 – 40%, Tier 2 – 40%, and Tier 3 – 20%

By Designation: C-level Executives – 40%, Directors – 40%, and Others – 20%

By Region: North America – 40%, Europe – 20%, Asia Pacific – 30%, and RoW – 10%

The report profiles key players in the robot operating system market with their respective market ranking analysis. Prominent players profiled in this report include ABB Ltd. (Switzerland), FANUC (Japan), KUKA AG (Germany), Yaskawa Electric

Corporation (Japan), Denso (Japan), Microsoft (US), Omron Corporation (Japan), Universal Robotics (Denmark), Clearpath Robots (Canada), iRobot Corporation (US), Apart from these, Pal Robotics (Spain), Robotnik (Spain), Rethink Robotics (Germany), Stanley Innovation (US), Husarion (Poland), Nanobiotix (Germany), Shadow Robot (UK), Yamaha Motor (Japan), Estun Automation (China), Shibaura Machine (Japan), Hirata Corporation (Japan), Techman Robot (Taiwan), Franka Emika (Germany), Bosch Rexroth AG (Germany), and Kawasaki Heavy Industries (Japan)

Report Coverage

The report defines, describes, and forecasts the robot operating system market based on integration with other operating systems, robot type, application, end user industry and region. It provides detailed information regarding drivers, restraint, opportunities, and challenges influencing the growth of robot operating system market. It also analyzes competitive developments such as product launches, acquisition, expansion contract, partnership and action carry out by the key players to grow the market.

Reasons to Buy This Report

The report will help the market leaders/new entrants in the market with information on the closest approximations of the revenue for the overall robot operating system market and the subsegments. The report will help stakeholders understand the competitive landscape and gain more insight to position their business better and plan suitable go-to-market strategies. The report also helps stakeholders understand the market's pulse and provides information on key drivers, restraint, opportunities, and challenge.

The report will provide insights into the following pointers:

Analysis of key drivers (Rising R&D funds for industrial automation), restraints (High installation cost of low volume production application), opportunities (Rising adoption of low-cost industrial robots), and challenges (Requirement of advanced robotic application to meet consumer expectation)

Product development /Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the robot operating system market.

Market Development: Comprehensive information about lucrative markets; the report analyses the robot operating system market across various regions.

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the robot operating system market.

Competitive Assessment: In-depth assessment of market share, growth strategies, and services, offering of leading players like ABB Ltd. (Switzerland), FANUC (Japan), KUKA AG (Germany), Yaskawa Electric Corporation (Japan), Denso (Japan), among others in robot operating system market.

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(Business Overview, Products Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats))*

12 APPENDIX

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