Robot Operating System Market to Witness Astonishing Growth by 2031 | Denso Corporation, Clearpath Robotics, KUKA AG,

The rise in the adoption of ROS by manufacturers and the demand for collaborative robots primarily drive the growth of the robot operating system market.

PORTLAND, PORTLAND, OR, UNITED STATES, December 9, 2023 /EINPresswire.com/ -- In a recent report titled "[Robot Operating System Market](#)," Allied Market Research reveals that the market for robot operating systems reached a valuation of $464.64 million in 2021 and is anticipated to achieve $1.4 billion by 2031, exhibiting a compound annual growth rate (CAGR) of 12% from 2022 to 2031.

Robot Operating System Market

The Robot Operating System (ROS) serves as an open-source platform, facilitating academics and developers in the creation and sharing of code across various robotics applications. Additionally, ROS represents a worldwide open-source community comprised of engineers, developers, and enthusiasts dedicated to enhancing accessibility, fostering improvements, and ensuring the availability of robots for a broad audience.

Operating as information layers with diverse programming languages, robot operating systems utilize programming structures. These systems facilitate hardware abstraction, device drivers, and cross-machine communication, and provide testing and visualization tools. The distinctive feature of ROS lies in its ability to enable users to develop intricate software without an in-depth understanding of specific hardware. The core of ROS involves the operation and communication of software, allowing the creation of a network of processes or nodes linked to a central hub. This decentralized approach offers flexibility, allowing various devices to run nodes and connect to the hub in numerous ways.

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ROS, a set of tools and frameworks for building robot applications, plays a pivotal role in shaping the future of robots in business, the enterprise, and for developers. Formerly, the responsibility of designing embedded software for robots rested with robotic researchers and designers. The adaptability and user-friendliness of Ubuntu make it a primary base for robotic operating systems.

By robot type, the SCARA robots segment held the major share in 2021, garnering around half of the global robot operating system market revenue. The collaborative robots segment would also showcase the fastest CAGR of 14.2% during the forecast period. Various advantages associated with the use of SCARA robots, and robot operating systems, including high speed and great accuracy faster than cartesian robots easy to installation and easy maintenance, thus driving the segment growth.

By application, the plastic injection and blow molding segment contributed to the highest share in 2021, accounting for around two-fifths of the global robot operating system market revenue. The PCB handling and ICT segment would also showcase the fastest CAGR of 14.7% throughout the forecast period. PCB and ICT solutions that address the diverse and varying needs of automated devices is currently becoming extremely valuable as more and more sectors adopt robotic operating systems.

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Additionally, being an open-source platform, ROS facilitates code writing and reuse for robotics applications by researchers and programmers. The global open-source community known as the "robot operating system" collaborates to advance, enhance usability, and make robots accessible to a broader audience, thereby fueling the market growth.

The growth of the robot operating system market is further propelled by the increased adoption of robotics in various industries, the rising use of ROS by manufacturers, and the growing demand for collaborative robots. However, challenges such as the high maintenance and installation costs of robots pose a hindrance to market expansion. On a positive note, the adoption of robot-as-a-service presents lucrative opportunities for market growth in the forecast period.

Factors such as increase in adoption of automotive in various industry, rise in adoption of ROS by manufacturer and demand of collaborative robots is increasing primarily drive the growth of the robot operating system market. However, high maintenance and installation cost of robots hamper the market growth to some extent. Moreover, adoption of robot as a service is expected to provide lucrative opportunities for the market growth during the forecast period.

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* Clearpath Robotics

* Denso Corporation

* FANUC CORPORATION

* iRobot Corporation

* KUKA AG

* Microsoft Corporation

* OMRON Corporation

* Universal Robotics

* Yaskawa Electric Corp.

The report analyzes these key players in the global robot operating system market. These players have adopted various strategies such as expansion, new product launches, partnerships, and others to increase their market penetration and strengthen their position in the industry. The report is helpful in determining the business performance, operating segments, developments, and product portfolios of every market player.

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Lastly, this report provides market intelligence most comprehensively. The report structure has been kept such that it offers maximum business value. It provides critical insights into the market dynamics and will enable strategic decision-making for the existing market players as well as those willing to enter the market.

Related Reports:

1. [Robotics Technology Market](#)

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