

Servo Motors And Drives - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

Market Report | 2024-02-17 | 179 pages | Mordor Intelligence

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Report description:

The Servo Motors And Drives Market size is estimated at USD 15.46 billion in 2024, and is expected to reach USD 20.54 billion by 2029, growing at a CAGR of 5.85% during the forecast period (2024-2029).

Servo motors are AC, DC, or linear motors with in-built positional feedback. These motors are used in closed-loop motion control systems where angular position, speed, and torque can be accurately controlled. Using permanent magnets enables the variation of the voltage and current between windings. A servo drive is an automatic device used with servo motors that provide the required voltage to the motor to correct any deviation from the commanded status, helping the motor achieve precise positioning.

Key Highlights

- Flexibility in machine tool operations is one of the most significant benefits. In addition, servos replace traditional gears, belts, and pulleys to eliminate wear and failure problems typical with older technologies. Servos increase productivity, reliability, and machine throughput.
- The industrial sector is among the major consumers of servo motors and drives as they are highly suitable for use in different types of industries owing to their ability to provide precise motion control. As a result, due to a growing rate of industrialization, especially across emerging regions, the adoption rate of advanced solutions such as robotics and automated equipment is likely to be higher across these regions.
- There has been significant growth in the demand for energy-efficient solutions on a global scale in recent years. The growing environmental concern and rising consumer awareness are among the major factors influencing the demand for energy-efficient solutions. With these factors becoming more prevalent during the forecast period, it is expected to have a notable impact on the dynamics of the servo motors and drives market.
- One of the major substitutes for servo motors is the stepper motor. A stepper motor is an electromechanical device that converts

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electrical energy into mechanical energy. It is also a brushless synchronous motor that can divide one rotation into many steps. Motor position can be precisely controlled without a feedback mechanism if the motor is carefully sized for the application. A stepper motor is like a switched reluctance motor.

-The outbreak of COVID-19 had been a nightmare for industrialists, i.e., a manufacturing recession. A significant slowdown in the sales of servo motors and drives from China disrupted the supply chain across applications, such as equipment, packaging materials, ingredients, and other plant supplies. Steel is among the major raw materials used in servo motors. As a result of disruptions that occurred in the steel industry, especially during the initial phase of COVID-19, the production of servo motors was hampered. For instance, China is a major steel producer. Owing to the outbreak of the pandemic, steel production in the country was hampered by trade restrictions, widespread lockdowns, and factory closures owing to restrictions imposed by the Republic of China's government during the pandemic.

-The COVID-19 pandemic increased the demand for semiconductors across the consumer electronics and automotive sectors, mainly due to the growing adoption of EVs post-pandemic. According to the Semiconductor Industry Association, in FY 2022, global semiconductor sales reached USD 574 billion, with total sales of US semiconductor companies at USD 275 billion, accounting for 48% of the global market. Moreover, worldwide sales of semiconductors totaled USD 134.7 billion during the third quarter of 2023, an increase of 6.3% compared to the second quarter of 2023.

Servo Motors And Drives Market Trends

Automotive Sector Is Expected to Hold Significant Market Share

- Servo motors play a crucial role in various automotive applications, contributing to the functionality and performance of different vehicle systems. Here are some common uses of servo motors in the automotive industry: Power Steering, Throttle Control, Brake Systems, Transmission and Gear Shift, HVAC Systems, and Headlight Control.

- There is an increasing use of servo motors and drives in the automotive industry and an increasing adoption of automation and robotics. Indeed, servo motors and drives play a crucial role in various automotive systems, including anti-lock brakes, fuel injection, cruise control, and more. They enable precise control and efficient operation of these systems, enhancing overall vehicle performance and safety.

- Robots have become integral in automotive assembly lines, performing tasks such as material handling, chassis assembly, painting, and more. This automation technology improves productivity, reduces errors, and lowers operating expenses for automakers. Collaborative robots, or "co-bots," are being utilized by major automotive manufacturers like Ford, Mercedes-Benz, GM, and BMW, further driving the demand for servo motors and drives.

- The automotive industry's increasing adoption of automation, digitalization, and artificial intelligence (AI) is propelling the demand for industrial robots. Automation improves manufacturing processes, enhances efficiency, and enables flexibility in production lines. As per the report you mentioned, experts predict that up to 75% of vehicles will be produced by robots by 2025, indicating the significant role of robotics in the automotive industry.

- With the growth in automation and robotics, the automotive industry's market for servo motors and drives is expected to expand. According to IFR, global industrial robot shipments amounted to approximately 3,84,000 in 2020. It is forecasted that 2024, the global industrial robot shipments will be about 518,000. Organizations recognize the benefits of automating their facilities to improve productivity and efficiency. This trend, coupled with the integration of digitalization and AI, contributes to the increasing demand for servo motors and drives in the automotive sector.

- Overall, the automotive industry's push toward automation and robotics is driving the demand for servo motors and drives. These components enable precise control, enhance productivity, and support adopting advanced manufacturing processes in the automotive sector.

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Asia Pacific Expected to Witness Significant Growth

- The market for servo motors and drives in Asia-Pacific is expanding significantly due to the rising number of industries in the region and their integration with automation to increase ROI. The Asia-Pacific servo motors and drives market is predicted to be dominated by China with the growing production, sales, and trade of robotic solutions in China.
- The Chinese market for servo motors and drives is growing rapidly in the EMEA and Americas regions as the country continues to focus on industrial automation. For instance, the Ministry of Industry and Information Technology (MIIT) in Beijing released the "14th Five-Year Plan" for Robot Industry Development on 21st December 2021, focusing on promoting innovation to make China a global leader in robot technology and industrial advancement by including it in 8 critical industries for the next five years. As per the recent 2023 World Robot Conference, China's robotics industry has achieved significant progress, with revenue exceeding CNY 170 billion (USD 23.3 billion) in 2022, with China's sales of industrial robots accounting for more than 50% of the world's total in 2022, ranking first globally for ten consecutive years.
- Japan is rapidly moving toward the concept of "Society 5.0," introducing the fifth chapter to the four major stages of human development. In this new ultra-smart society, all things are connected through IoT technology, and all technologies are integrated, dramatically improving the quality of life. To realize this new era, the Government of Japan is taking various suitable steps to encourage various players, including start-ups and "hidden gems" among small- and medium-sized enterprises, to come up with brand-new and innovative ideas for facilitating the world with solutions to problems such as labor shortages owing to population. In a country such as Japan, known for bringing large-scale industrial robots to the factory floor, these problems in the manufacturing sector have led such relatively dainty machines to be dismissed as niche and low-margin. These factors are likely to drive the growth of the servo motors and drive market in the country as servo controllers are taking robotic automation to the next level by making it possible for machines to make smooth, repeatable, and exact movements. Together, those characteristics allow electronic design engineers to create fascinating innovations.
- The action plan for manufacturing and service included projects such as advanced air mobility, autonomous driving, or the development of integrated technologies as the core of next-generation artificial intelligence and robots. Additionally, a budget of 440 million USD was allotted to robotics-related projects in the "Moonshot Research and Development Program" for five years from 2020 to 2025.
- The Indian automobile industry has historically been a significant indicator of how well the economy is doing, as the automobile sector plays a crucial role in both macroeconomic expansion and technological advancement. According to the Organisation Internationale des Constructeurs d'Automobiles, a record 4.7 million passenger cars and commercial vehicles were sold in India in 2022. In addition, the electric vehicle (EV) market is estimated to reach USD 7.09 billion in India by 2025. A study by the CEEW Centre for Energy Finance recognized a USD 206 billion opportunity for electric vehicles in India by 2030. This is expected to necessitate a USD 180 billion investment in vehicle manufacturing and charging infrastructure.

Servo Motors And Drives Industry Overview

The servo motors and drives market is fragmented with the presence of major players like Yaskawa Electric Corp., Mitsubishi Electric Corp., Siemens AG, Schneider Electric, and Rockwell Automation, Inc. Players in the market are adopting strategies such as partnerships and acquisitions to enhance their product offerings and gain sustainable competitive advantage.

- October 2023: Yaskawa Electric Corporation announced the expansion of the GA700 series of next-generation AC drives. The 400V-class capacity lineup has been expanded from 0.4 to 355 kW to 0.4 to 630 kW. With the addition of the high-capacity band, the GA700 can now be applied to larger general industrial machinery and equipment for a broader range of applications.
- September 2023: Mitsubishi Electric Automation Inc. announced the expansion of its MELESRVO-J5 product family to include more options for OEMs and end-users. The new generation of MR-J5 servo products includes two new servo types, HK-RT/ST, and

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the addition of high-speed HK-KT/ST servo motors with 3,000 rpm-rated speed.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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