

Military Ground Vehicle Actuators - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Military Ground Vehicle Actuators Market size is estimated at USD 280.27 million in 2024, and is expected to reach USD 342.31 million by 2029, growing at a CAGR of 4.08% during the forecast period (2024-2029).

Key Highlights

-The rise in military spending by nations such as the United States, China, India, Russia, etc., due to growth in terrorism, border conflicts, etc., is propelling investments in military ground vehicles with advanced automated functions. This factor significantly drives the market growth for military ground vehicle actuators. The increasing use of armored vehicles with mounted weapon systems, protection systems, etc., is driving the market growth for military ground vehicle actuators.

-The growing emphasis on reducing the weight of armored vehicles is propelling the use of linear and electromechanical actuators for door actuation, window actuation, seat adjustment, brake and throttle control, etc. Moreover, the rise in automation and the expected large-scale arrival of autonomous self-driven defense vehicle technology is also projected to significantly boost the use of actuators in military vehicles.

-Geographies such as North America and Europe are investing in research and development of autonomous ground weapon vehicles such as autonomous tanks. This emphasis on advancement aligns with the increasing use of actuators in military vehicles, suggesting that the efficiency and life-saving abilities of autonomous systems will be propelled by the use of advanced actuators in the future.

Military Ground Vehicle Actuators Market Trends

Electrical Actuators To Exhibit The Highest Growth Rate During the Forecast Period

- The increasing trend toward electrification and autonomy in military vehicles drives the market growth for electric actuators. As the fleet size of land vehicles grows and upgrade and retrofit activities increase, the demand for electric actuators rises accordingly. In the defense industry, electric actuators find increasing usage in ground combat vehicles, particularly in main battle tanks, artillery gun-laying systems, gun and turret drive actuators, and traverse actuators.

- In December 2022, the US Army received the Canoo LTV (Light Tactical Vehicle), an all-electric light-duty military tactical vehicle manufactured by EV-maker Canoo, for analysis and demonstration. Equipped with an all-electric motor and lightweight Kevlar body paneling, the LTV demonstrates the potential of electric actuators in military applications.

- Electric actuators offer advantages such as minimized energy loss, and when used alongside pneumatic and hydraulic actuators, they deliver high electromechanical power and robust performance with increased efficiency. Specifically, electrical linear actuators, capable of operating under loads of 50,000N and above, serve diverse functions in military vehicles, including motion control, utility actuation, suspension, and auto hitch functionalities.

 With a heightened focus on autonomy, piezoelectric actuators have emerged as advanced devices for actuation in computers and devices installed in military vehicles. They offer easy maintenance, low assembly costs, and high thermal stability.
 Furthermore, modern combat vehicles equipped with advanced lightweight gun systems utilize electrical systems for linkless ammunition feeding, speed firing mechanisms, and more.

- Continual innovation in the design of electromechanical actuators enhances the survivability of armored vehicle systems. Technological advancements, such as multi-functionality that enables both rotary and linear actuation from a single device contribute to cost efficiency, reduction in system weight, and size. These factors collectively drive the market growth of electric actuators for military ground vehicles.

North America To Exhibit The Highest Growth Rate During The Forecast Period

- North America comprises countries such as the US, which boasts the world's largest military budget. A significant portion of this budget is allocated to the development of highly advanced and autonomous ground vehicle systems. Technological advancements in the Internet of Things (IoT), artificial intelligence (AI), robotics, and others are driving the expansion of intelligent ground vehicle systems in the region.

- Currently, the United States is actively engaged in the development of various autonomous vehicle system technologies. The US Army maintains a diverse array of armored vehicles, including main battle tanks, armored personnel carriers, infantry fighting vehicles, engineering support vehicles, mine-protected vehicles, prime movers and trucks, mobile artillery, light tactical vehicles, and light utility vehicles. These vehicles vary in size and weight, ranging from the 70-plus ton Abrams main battle tank to the Special Forces' Lightweight Tactical All-Terrain Vehicle, which weighs approximately one ton.

- Additionally, the Army operates modified commercially available vehicles like dump trucks and pickups. For example, in June 2023, the US Army awarded a contract to develop a new prototype for a mechanized infantry combat vehicle. Under this contract, General Dynamics Land Systems Inc. and American Rheinmetall Vehicles LLC will create prototypes of a vehicle intended to replace the M2 Bradley Infantry Fighting Vehicle. The replacement vehicle will offer surveillance, protection, transportation, and small-arms firepower for squad elements. The combined value of these contracts is approximately USD 1.6 billion.

- Moreover, the Optionally Manned Fighting Vehicle (OMFV) program is a pivotal component of the US Army's modernization strategy. The Next Generation Combat Vehicle program seeks to upgrade various vehicles and weapons platforms used within the Army. In July 2022, the US Army signed a contract valued at over USD 18.9 million with Ricardo's Defense business unit, situated in Michigan, to deliver additional antilock brake system/electronic stability control (ABS/ESC) retrofit kits. These kits aim to enhance the safety of operation for the US Army's high mobility multipurpose wheeled vehicle (HMMWV). Collectively, these factors and instances are driving the market growth for military ground vehicle actuators.

Military Ground Vehicle Actuators Industry Overview

The military ground vehicle actuators market is consolidated with Moog Inc., Nook Industries Inc., Curtiss-Wright Corporation, AMETEK Inc., and Kyntronics, accounting for a majority of the market share. The market is witnessing a heavy demand due to increased investments in land-based autonomous combat vehicle technology. Players are witnessing huge opportunities in the growing demand for robust motion control requirements with higher efficiency and lightweight. The revenue generation of market players depends upon innovations in design and performance, the cost-effectiveness of products, and partnerships with major land-based combat system manufacturers.

Additional Benefits:

- The market estimate (ME) sheet in Excel format

- 3 months of analyst support

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