

Military Robots Market 2024 Trends: Expected to Grow at a CAGR of 7.4% During 2021-2030, Claims AMR

The global military robot market is estimated to reach \$34.61 billion by 2030, growing at a CAGR of 7.4% from 2021 to 2030.

WILMINGTON, DE, UNITED STATES, October 19, 2024 /EINPresswire.com/ -- As per the report

Military Robot Market - By application, the combat support segment is expected to register a significant growth during the forecast period.

Allied Market Research

published by Allied Market Research, the global <u>military</u> robot market was accounted for \$17.55 billion in 2020, and is estimated to reach \$34.61 billion by 2030, growing at a CAGR of 7.4% from 2021 to 2030.

Rise in investment to develop autonomous systems and surge in demand for underwater drones for defense and security applications drive the global <u>military robot market</u>. However, high cost of military drones and communication problems associated with autonomous underwater vehicles hinder the market growth. On the contrary, rise in

investment for robotics technologies in unmanned ground vehicles and surge in defense spending are expected to open new opportunities for the market players in the future.

Key Segments in the Military Robots Market By Type:

Land Robots: Includes unmanned ground vehicles (UGVs) used for surveillance, logistics, bomb disposal, and combat missions.

Aerial Robots: Comprises unmanned aerial vehicles (UAVs), drones, and loitering munitions used for reconnaissance, target acquisition, and aerial combat.

Naval Robots: Includes unmanned surface vehicles (USVs) and unmanned underwater vehicles (UUVs) designed for naval operations like mine detection, anti-submarine warfare, and maritime security.

By Application:

Intelligence, Surveillance, and Reconnaissance (ISR): Robots used for gathering, monitoring, and analyzing intelligence data from the battlefield.

Combat Support: Systems designed to engage in direct combat or provide support to armed forces in the field.

Search and Rescue: Robots used to locate and rescue personnel in hostile or hazardous environments.

Explosive Ordnance Disposal (EOD): Robots specialized in detecting, diffusing, and disposing of explosive devices.

By Mode of Operation:

Human-Operated: Robots controlled remotely by human operators for precision and safety. Autonomous: Fully autonomous systems that use AI and machine learning for decision-making and can operate without human intervention.

Semi-Autonomous: Robots with a combination of remote control and autonomous capabilities for specific tasks.

Market Drivers

Technological Advancements: Rapid advancements in AI, machine learning, and sensor technologies have enhanced the functionality and autonomy of military robots.

Reducing Soldier Casualties: The use of robots in high-risk operations helps minimize soldier exposure to dangerous environments, improving safety.

Increased Defense Budgets: Governments are allocating significant resources to modernize their armed forces with robotic and autonomous systems to maintain technological superiority. Geopolitical Conflicts and Border Security: Rising tensions and conflicts worldwide are driving the demand for advanced military technologies to secure national borders and protect assets.

Leading Companies in the Market Northrop Grumman Corporation Lockheed Martin Corporation BAE Systems Thales Group Elbit Systems Ltd. General Dynamics Corporation Boston Dynamics

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Trends

AI-Enabled Autonomous Systems: The integration of AI in military robots enhances their decision-making capabilities, enabling them to execute complex missions with minimal human intervention.

Swarm Robotics: Development of swarm technology allows multiple robots to coordinate and work together on the battlefield, increasing operational efficiency.

Advanced Drone Warfare: UAVs are increasingly used for combat, reconnaissance, and surveillance missions, with a focus on developing stealth and loitering capabilities.

Cybersecurity for Robotic Systems: As military robots become more connected, cybersecurity measures are crucial to protect them from hacking and cyberattacks.

Challenges

Ethical and Legal Concerns: The use of fully autonomous lethal robots raises ethical questions regarding decision-making in life-and-death situations and the potential for unintended consequences.

High Costs: Developing and deploying advanced military robots requires significant investments, which may limit their adoption in countries with smaller defense budgets.

Technical Limitations: Limitations in AI algorithms, battery life, and communication systems can affect the performance and reliability of military robots in complex scenarios.

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