+44 20 8123 2220
info@marketpublishers.com

Automated Weapon System Market – Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Type (Radar Guided, Homing Missiles, Stationary Sentry Guns, Combat Drone), By Platform (Autonomous, Semi-Autonomous), By Application Type (Land-Based, Airborne, Naval), By Region, Competition 2018-2028

https://marketpublishers.com/r/AC7E5C0D2527EN.html
Date: January 2024
Pages: 174
Price: US$ 4,900.00 (Single User License)
ID: AC7E5C0D2527EN

Abstracts

Global Automated Weapon System market was valued at USD 11 billion in 2022 and is anticipated to project robust growth in the forecast period with a CAGR of 5.90% through 2028. Combat drones, radar, homing missiles, stationary sentry guns, and other automated weapon systems provide features including real-time target images, improved surveillance capabilities, and accurate target position. These skills help security personnel maintain border security and give civilians a higher level of safety. The military and defense forces' increasing usage of unmanned system solutions, together with factors including expanding territorial conflicts and geopolitical instability, are anticipated to propel market growth. Nonetheless, the market's expansion may be hampered by wealthy nations' shrinking defense budgets, such as the US, and strict government laws governing the production of border security equipment.

Market Drivers

Technological Advancements and Innovation

The rapid pace of technological advancements is a primary driver propelling the growth of the Global Automated Weapon System Market. Innovations in artificial intelligence, machine learning, and sensor technologies have paved the way for the development of

+44 20 8123 2220
info@marketpublishers.com

more sophisticated and autonomous weapon systems. These advancements enable automated weapon systems to operate with increased precision, adaptability, and decision-making capabilities, making them more effective in a wide range of military scenarios. With the integration of cutting-edge technologies, such as computer vision, neural networks, and autonomous navigation, automated weapon systems can identify and engage targets with a level of accuracy and speed that surpasses traditional human-operated systems. This technological superiority is a compelling factor for defense agencies worldwide, driving investments in research and development to stay ahead in the arms race and maintain a technological edge over potential adversaries.

Increasing Global Security Concerns

The escalating global security concerns and evolving geopolitical landscape contribute significantly to the growth of the automated weapon system market. Nations are increasingly seeking to modernize their defense capabilities to address emerging threats, ranging from conventional warfare to asymmetric and cyber threats. Automated weapon systems offer a versatile solution for addressing these diverse challenges, providing capabilities for surveillance, reconnaissance, target acquisition, and precision strike without putting human lives at direct risk. The ability of automated weapon systems to operate in challenging environments, respond swiftly to emerging threats, and conduct missions with a high degree of autonomy makes them indispensable in contemporary military strategies. As nations strive to enhance their national security postures, the demand for automated weapon systems continues to rise, driving market growth.

Operational Efficiency and Cost Savings

The pursuit of operational efficiency and cost savings is a critical driver influencing the adoption of automated weapon systems. These systems offer advantages such as reduced manpower requirements, lower maintenance costs, and increased mission success rates. The integration of automated systems allows military forces to execute missions with greater precision, minimizing collateral damage and optimizing resource utilization. Automated weapon systems can operate for extended periods without fatigue, providing continuous surveillance and response capabilities. This increased operational efficiency translates into a strategic advantage for defense forces, as they can achieve mission objectives more effectively and economically. The potential cost savings associated with automated weapon systems make them an attractive option for military budgets, further driving market expansion.

+44 20 8123 2220
info@marketpublishers.com

Emergence of Unmanned Aerial Vehicles (UAVs)

The widespread adoption of Unmanned Aerial Vehicles (UAVs) is a significant driver within the automated weapon system market. UAVs have become indispensable assets for military forces, providing intelligence, surveillance, reconnaissance, and strike capabilities without exposing human operators to direct risk. The versatility and adaptability of UAVs make them valuable across various military operations, from border surveillance to targeted strikes against hostile elements. The integration of advanced sensors and communication systems into UAVs enhances their situational awareness and mission capabilities. The growing use of UAVs for both offensive and defensive operations is a key factor propelling the automated weapon system market forward. As nations invest in expanding their UAV fleets and incorporating advanced technologies, the market for automated weapon systems is expected to experience substantial growth.

International Collaboration and Alliances

The collaborative efforts and alliances between nations are fostering the growth of the Global Automated Weapon System Market. In an era of interconnected global security, countries are increasingly engaging in joint development and procurement programs to pool resources and expertise. Collaborative projects enable nations to share the costs and risks associated with the development of advanced automated weapon systems, leading to more rapid innovation and deployment. International partnerships also facilitate interoperability between different automated weapon systems, allowing for seamless integration into joint military operations. As nations recognize the strategic importance of automated capabilities, joint ventures and alliances contribute to the expansion of the market by creating a collaborative ecosystem that drives innovation and technological progress.

Key Market Challenges

Ethical and Legal Dilemmas

The ethical and legal challenges surrounding automated weapon systems represent a significant and complex facet of the Global Automated Weapon System Market. The development and deployment of autonomous weapons raise profound ethical questions about the morality of machines making life-and-death decisions without direct human intervention. Concerns about accountability, transparency, and the potential for unintended consequences have sparked debates within the international community

and among advocacy groups. From a legal standpoint, existing frameworks may not adequately address the unique challenges posed by autonomous weapons. The lack of clear international regulations governing the use of automated weapon systems can lead to ambiguity and differing interpretations of acceptable behavior. The absence of established norms raises the risk of misuse and undermines efforts to ensure that these systems adhere to ethical standards and comply with international humanitarian laws. The Global Automated Weapon System Market must grapple with these ethical and legal dilemmas, necessitating a careful balance between technological innovation and the establishment of robust ethical guidelines and legal frameworks that govern the responsible use of autonomous weapons.

Public Perception and Acceptance

Public perception and acceptance of automated weapon systems pose another significant challenge for the market. The introduction of autonomous weapons often sparks concerns among the general public about the potential for misuse, loss of control, and the impact on global stability. These concerns are further exacerbated by portrayals of autonomous weapons in popular media and the ethical implications associated with machines making lethal decisions. Public distrust can translate into political pressure and influence policymakers' decisions on the development and deployment of automated weapon systems. Achieving widespread public acceptance requires transparent communication about the capabilities, limitations, and ethical considerations surrounding these systems. Industry stakeholders must engage in proactive public relations efforts, educate the public on the benefits and risks, and address concerns to build confidence in the responsible use of automated weapon systems.

Technical Limitations and Reliability:

Despite significant technological advancements, automated weapon systems face inherent technical limitations and reliability challenges. The complexity of autonomous systems, which rely on artificial intelligence, machine learning, and sensor technologies, introduces uncertainties and potential vulnerabilities. Issues such as sensor accuracy, environmental variability, and the ability to distinguish between legitimate targets and civilians remain significant challenges. Additionally, the potential for adversarial attacks, including cyber threats aimed at disrupting or manipulating automated weapon systems, poses a serious technical challenge. Ensuring the reliability and robustness of these systems in the face of evolving threats requires ongoing research and development efforts to enhance their resilience, adaptability, and responsiveness. The Global

+44 20 8123 2220
info@marketpublishers.com

Automated Weapon System Market must address these technical challenges through rigorous testing, validation processes, and continuous improvement to instill confidence in the reliability and effectiveness of automated weapon systems.

Lack of International Standards

The absence of comprehensive international standards for the development and deployment of automated weapon systems is a notable challenge facing the Global Automated Weapon System Market. The lack of a unified set of guidelines and protocols contributes to a fragmented landscape where different nations may adopt divergent approaches to the use of autonomous weapons, leading to potential inconsistencies in ethical and operational practices. Establishing international standards requires collaboration and consensus-building among nations with varying perspectives on the role and limitations of automated weapon systems. The absence of a global framework complicates efforts to ensure responsible and ethical practices, potentially hindering interoperability and cooperation in multinational military operations. Industry stakeholders, alongside governments and international organizations, must actively engage in discussions aimed at developing a cohesive set of international standards that address ethical considerations, operational guidelines, and accountability mechanisms for automated weapon systems.

Human-Machine Interaction and Decision-Making

The challenge of defining and managing human-machine interaction and decision-making processes is a critical aspect of the Global Automated Weapon System Market. The degree of autonomy afforded to these systems raises questions about the appropriate level of human involvement in decision-making, particularly in critical and morally sensitive situations. Striking the right balance between human control and machine autonomy is a complex challenge that involves addressing issues such as accountability, oversight, and the delegation of decision-making authority. Human operators must retain the ability to intervene, override, or provide guidance to automated weapon systems, especially in situations where ethical considerations come into play. The market must grapple with developing interfaces and decision-making architectures that facilitate effective collaboration between humans and machines. This involves not only technical considerations but also ethical and psychological aspects to ensure that the integration of automated weapon systems aligns with societal values and norms.

Key Market Trends

+44 20 8123 2220
info@marketpublishers.com

Integration of Artificial Intelligence (AI) and Machine Learning

One of the prominent trends in the Global Automated Weapon System Market is the increasing integration of artificial intelligence (AI) and machine learning (ML) technologies. These advancements play a pivotal role in enhancing the autonomy and decision-making capabilities of automated weapon systems. AI enables systems to analyze vast amounts of data in real-time, identify patterns, and make informed decisions without human intervention. Machine learning algorithms empower automated weapon systems to adapt to changing environments, learn from past experiences, and optimize their performance over time. This trend not only improves the efficiency and accuracy of autonomous systems but also contributes to their ability to operate in complex and dynamic scenarios. As nations invest in research and development to harness the potential of AI and ML in defense applications, the Global Automated Weapon System Market is witnessing a paradigm shift towards more intelligent and adaptive solutions.

Focus on Cybersecurity and Countermeasures

The increasing reliance on automated weapon systems has brought about a corresponding emphasis on cybersecurity and the development of countermeasures. As these systems become more interconnected and dependent on networked communication, they become vulnerable to cyber threats that could compromise their functionality and integrity. The evolving nature of cyber warfare necessitates robust cybersecurity measures to safeguard automated weapon systems from unauthorized access, manipulation, or disruption. The Global Automated Weapon System Market is responding to this trend by incorporating advanced cybersecurity features into the design and operation of autonomous systems. This includes encryption protocols, secure communication channels, and measures to detect and mitigate cyber threats in real-time. Additionally, there is a growing market for specialized countermeasures designed to protect automated weapon systems from electronic warfare and cyberattacks, reflecting the increasing recognition of the importance of cybersecurity in modern military operations.

Ethical and Legal Implications

The deployment of automated weapon systems has raised ethical and legal concerns that are shaping the discourse around their use. The concept of "lethal autonomy," where machines make life-and-death decisions without direct human intervention, has

+44 20 8123 2220
info@marketpublishers.com

sparked debates on the ethical implications of autonomous weapons. Questions about accountability, the potential for unintended consequences, and the adherence to international humanitarian laws are gaining prominence. This trend is influencing the Global Automated Weapon System Market as stakeholders, including governments, military organizations, and advocacy groups, call for clear ethical guidelines and legal frameworks to govern the development and use of autonomous weapons. The market is responding with efforts to incorporate ethical considerations into the design and deployment of automated weapon systems. Additionally, there is a growing demand for transparency and accountability in the development process, with a focus on ensuring that these systems adhere to established legal and ethical standards.

Multi-Domain Integration and Interoperability

The trend towards multi-domain integration is a key driver influencing the development and adoption of automated weapon systems. Modern military operations often require seamless coordination and collaboration across air, land, sea, space, and cyberspace domains. As a result, there is a growing emphasis on the integration of automated weapon systems that can operate cohesively across multiple domains, providing a comprehensive and unified approach to defense. The Global Automated Weapon System Market is witnessing increased demand for interoperable solutions that can communicate and share data across different platforms and domains. This trend is driving innovation in sensor technologies, communication protocols, and data fusion capabilities to ensure that automated weapon systems can operate effectively in joint and coalition operations. The ability to integrate seamlessly into a multi-domain environment is becoming a key differentiator for manufacturers and developers in the automated weapon system market.

Rise of Unmanned Ground Vehicles (UGVs) and Naval Systems

While unmanned aerial vehicles (UAVs) have been at the forefront of automated weapon systems, there is a growing trend towards the development and deployment of unmanned ground vehicles (UGVs) and naval systems. UGVs are becoming integral components of military operations, offering capabilities such as reconnaissance, surveillance, and logistics support in challenging terrain where human access may be limited or risky. In naval operations, unmanned systems are taking on roles such as mine countermeasures, underwater surveillance, and anti-submarine warfare. The Global Automated Weapon System Market is responding to this trend with increased investments in the research and development of UGVs and naval autonomous systems. The expansion of capabilities beyond the aerial domain reflects a broader recognition of

+44 20 8123 2220
info@marketpublishers.com

the diverse operational environments in which automated weapon systems can provide significant advantages.

Segmental Insights

Type Analysis

The combat drone, fixed sentry gun, and radar-guided homing missile segments make up the global market. The market was controlled by the radar-guided category. Nonetheless, over the course of the projection period, the combat drone category is anticipated to develop at the greatest CAGR. The expansion of this market is being driven by the increasing use of combat drones for border surveillance by nations like the US and the UK, among other uses.

Regional Insights

The markets have been divided into five regions: North America, Europe, Asia-Pacific, Middle East & Africa, and South America. The market was headed by North America. Nonetheless, over the course of the forecast period, the Asia-Pacific market is anticipated to expand at the fastest CAGR. The region's market is expanding due to rising defense spending by nations like China and India as well as an increase in territorial disputes.

Recent Developments

For the essential design review, testing, and production readiness support of the Air-Launched Rapid Response Weapon (ARRW), Lockheed Martin was awarded a contract for up to USD 480 million.

After acquiring Orbital ATK, Northrop Grumman established Northrop Grumman Innovation Systems as its fourth business division. The purchase price was USD 78 billion.

In order to create new weapon systems for soldiers operating in dangerous settings, Raytheon and Saab partnered in November 2017.

In order to provide the US Military and its allies with new large caliber precision-guided technologies, BAE Systems and Leonardo agreed into a collaboration

+44 20 8123 2220
info@marketpublishers.com

agreement in June 2017.

Key Market Players

Northrop Grumman Corporation

Lockheed Martin Corporation

Thales Group

BAE Systems Plc

Israel Aerospace Industries Ltd

Boston Dynamics

Aerovironment Inc.

Turkish Aerospace Industries Inc.

Saab AB

General Dynamics Corporation

Report Scope:

In this report, the Global Automated Weapon System Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Automated Weapon System Market, By Type:

Radar Guided

Homing Missiles

Stationary Sentry Guns

+44 20 8123 2220
info@marketpublishers.com

Combat Drone

Automated Weapon System Market, By Platform:

Autonomous

Semi-Autonomous

Automated Weapon System Market, By Application Type:

Land-Based

Airborne

Naval

Automated Weapon System Market, By Region:

Asia-Pacific

China

India

Japan

Indonesia

Thailand

South Korea

Australia

Europe & CIS

Germany

+44 20 8123 2220
info@marketpublishers.com

Spain

France

Russia

Italy

United Kingdom

Belgium

North America

United States

Canada

Mexico

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Turkey

Saudi Arabia

UAE

+44 20 8123 2220
info@marketpublishers.com

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Automated Weapon System Market.

Available Customizations:

Global Automated Weapon System market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

+44 20 8123 2220
info@marketpublishers.com

Contents

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

7. EUROPE & CIS AUTOMATED WEAPON SYSTEM MARKET OUTLOOK

+44 20 8123 2220
info@marketpublishers.com

8. NORTH AMERICA AUTOMATED WEAPON SYSTEM MARKET OUTLOOK

+44 20 8123 2220
info@marketpublishers.com

9. SOUTH AMERICA AUTOMATED WEAPON SYSTEM MARKET OUTLOOK

+44 20 8123 2220
info@marketpublishers.com

10. MIDDLE EAST & AFRICA AUTOMATED WEAPON SYSTEM MARKET OUTLOOK

+44 20 8123 2220
info@marketpublishers.com

11. SWOT ANALYSIS

12. MARKET DYNAMICS

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

15. STRATEGIC RECOMMENDATIONS

+44 20 8123 2220
info@marketpublishers.com

16. ABOUT US & DISCLAIMER

+44 20 8123 2220
info@marketpublishers.com

I would like to order

Product name: Automated Weapon System Market – Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Type (Radar Guided, Homing Missiles, Stationary Sentry Guns, Combat Drone), By Platform (Autonomous, Semi-Autonomous), By Application Type (Land-Based, Airborne, Naval), By Region, Competition 2018-2028

Product link: https://marketpublishers.com/r/AC7E5C0D2527EN.html

Price: US$ 4,900.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/AC7E5C0D2527EN.html

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

**All fields are required

Custumer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at https://marketpublishers.com/docs/terms.html

+44 20 8123 2220
info@marketpublishers.com

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970