Security Robot Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The Security Robot Market is expected to grow by registering a CAGR of 13.4% during the forecast period. Also, the rapid evolution in the technology of such robots has led to new functions which enable them to protect the public efficiently.

Key Highlights
The development of automation and sensor technologies has led to a rise in the use of security robots in numerous applications. Because of breakthroughs in neural network technology, these robots might learn over time and become more useful. These sensors help robots analyze their surroundings and provide more precise information. These robots' skills for remote sensing can be used to monitor the region and spot any threats.
Moreover, the development of new technologies has also significantly improved the capabilities of these robots. Presently, they can be deployed on challenging terrains and environments to perform surveillance and other actions based on analytics. The inclusion of different sensors in security robots has improved the capabilities of robots in analyzing their environment and providing more reliable data. This has significantly benefitted their incorporation into military devices.
Robotic security systems may have a future, according to developments like K5 by KnightscopeInc. Earlier, these robots had limited capabilities, but with improvements in automation and sensor technology, these robots have been created to be useful in practical applications. These robots now have the ability to learn over time and enhance their functioning due to the development and advancements of neural network technology.
The fact that these robots gather a lot more data than people shows that they are more comparable to mobile security robots than traditional security guards. They are frequently portrayed, despite this, as helpful patrol bots that could eventually take the place of human security guards. Because they are trustworthy, incorruptible, and more economical than security employees, security robots are frequently utilized at a variety of establishments around the world, including malls, parking lots, and universities.

The main obstacle to the development of security robots is the growing worry over the invasion of privacy. Security robots have a large number of cameras that can record license plates, view the serial numbers of cell phones, and detect heat in items. The security agency using the robot uses the data.
The COVID-19 pandemic increased the prospect of the introduction of unmanned technologies in the business of private security and asset protection companies. However, the risk of infection of the personnel of security companies rose during the initial days of the pandemic. The spread of infection from one personnel to another often led to the need to hire new employees or reduce the quality of service and safety. Besides, many countries reduced the inflow of immigrants to their territories. Such trends prompted the adoption of security robots.

Security Robot Market Trends

Commercial End-user Industry is Expected to Hold a Significant Share

Commercial businesses can raise their degree of security and get significant financial advantages by using patrol robots in place of security guards. Since patrol robots are stationed in secured areas around-the-clock, they are more effective than security officers. They are equipped with a 360-degree intelligent video surveillance system that can recognize individuals, and their internal analytics system can forecast when potentially dangerous scenarios may occur.
While R&D for autonomous vehicles costs billions of dollars, indoor robots for business areas benefit from the technology and financial advantages of sensors, computation, machine learning, and open-source software. The commercial security budget is expected to increase, and there is a sizable untapped market; thus, the market for security robots is expected to expand quickly.
Security robots can perform a wide range of functions in and around the commercial sector in addition to basic patrolling duties, as is to be expected. Many robots can now be equipped with a variety of sensors, including ultrasonic and LiDAR ones, as the IoT (Internet of Things) continues to develop and advance. This allows them to identify more anomalies, particularly in risky or hazardous circumstances. These sensors make it possible to do more than just prevent crime.
Security robots can be operated autonomously or under remote control in commercial applications. This implies that a single person might keep an eye on several security robots and take over if something significant is found. They can be employed in outdoor spaces, big buildings, and public places like parking lots, amusement parks, business and academic campuses, and multi-building medical complexes.
With their contour-based natural navigation capabilities, the robots can also be employed inside, such as in offices, small enterprises, malls, factories, airports, etc. Because of their numerous applications in a variety of industries, including workplaces and hospitals, indoor robots are becoming increasingly popular. Companies in the industry are creating unique robotic systems for certain applications since robots have the ability to provide a variety of safety-related and economic benefits.
In order to help security experts discover potential threats swiftly and covertly, robots are also increasingly being developed as capable of recognizing people, and license plates, helping with identity, to provide customer services, and two-way emergency contact.
Moreover, other retail centers, like the Phoenix Shopping Center in the United States, Park Central Mall in the United States, Yas Mall in Abu Dhabi, and others, have used robots. The fact that robots are getting more popular and are being used in malls and other structures to not only lessen risks but also to maintain efficient operations implies that security robots are playing an increasingly important role in society. As a result, the market is expanding due to the quick acceptance of security robots in commercial applications.

United States Expected to Account for the Largest Share

North America is among the leading innovators and pioneers in terms of the adoption of robotics and is one of the largest markets. The primary reason for the growth of the market is the increasing adoption of these security robots across numerous industries.
The assessment of Canada and the United States is part of the market growth analysis for security robots in North America. Due to their dependability and quality, unmanned solutions are widely used by US security and surveillance services. There have been more terrorist attacks and ongoing armed confrontations in public venues like schools. Security robots are becoming more and more necessary due to such territorial disputes and geopolitical instability.
As a result of technological advancements in different industries brought about by the advent of machine learning, computer vision, and robotics, the security and facility management paradigm is changing in the United States. Robots are more than just a jumble of sensors and calculations. They are fundamental machines that can connect to the entire world and provide both innovation and flexibility. They are designed to traverse populated areas safely and without coming across as threatening or terrifying, which promotes cultural acceptance.
Raising defense spending in North America would fuel the escalation of interest in security robots. Nations worldwide are using cutting-edge technology to defend their borders against underwater threats. The risks posed by pirates, terrorists, and sailors generating issues across marine and land boundaries have escalated in the contemporary global context. This leads to concerns about revenue trafficking in the nation. Weapons and ammunition, handguns, drugs, and human trafficking continue to occur. So, it seems acceptable to expand defense spending globally in an effort to stop these atrocities.
Due to the increased use of cutting-edge equipment for overseas contingency operations, North America is one of the top regions for the adoption of security robots. The region leads the world in both spending and technological advancements, and it has deployed a substantial number of security robots. In the US, there is a huge market for robots that are used for security and surveillance. Canada recently made considerable investments in the creation of security robots.

Security Robot Market Competitor Analysis

The global security robots market is highly fragmented, with several new entrants and start-ups in developed regions. Relatively high barriers to entry and exit lead to higher market penetration. However, the tendency to vertically integrate across different value chain segments tends to offer a competitive edge to leading vendors in the market. Lockheed Martin Corporation and Northrop Grumman are some of the key players in the security robot market.

In June 2022, Elbit Systems unveiled COPAS-L, a new Electro-Optical (EO) payload for Intelligence, Surveillance, Target Acquisition, and Reconnaissance (ISTAR). COAPS-L is a miniaturized configuration of the Company□s Commander Open Architecture Panoramic Sight (COAPS) that is in service onboard Main Battle Tanks and Armored Fighting Vehicles (AFV) around the world.

In January 2022, Leonardo bought HENSOLDT AG, a top German leader in the market for sensors for defense and security applications, with an expanding portfolio in sensors, data management, and robotics. Leonardo would also be able to build a long-term strategic position in the quickly expanding German defense industry thanks to this acquisition.

Additional Benefits:

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

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