

**Military Robots and Unmanned Vehicles Market Shares,
Strategies, and Forecasts, Worldwide, 2010 to 2016**

**Military Robots Use Embedded Software to Improve
Functionality**



Picture by Susie Eustis

MOUNTAINS OF OPPORTUNITY

**WinterGreen Research, Inc.
Lexington, Massachusetts**

www.wintergreenresearch.com

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CHECK OUT THESE KEY TOPICS

Military Bomb Detection Robots
Networks of Military Robots
Unmanned Military Logistics Vehicles
Military Robots Market Shares
Unmanned Vehicles
Military Robots Market Forecasts
Maneuverable Military Robots
Military Embedded Software
Sensor Network
Search And Rescue
Robot Navigation
Battery for Military Robots
Military Robots Drive Control
Military Robots Electronics
Military Robots Market Segments
Low Power Military Robots

Guns Mounted on Robots
Military Robots
Auto Assault-12 (AA-2)
Remote-Controlled Weapons
Neural Robotics
Robotex
Folding Transport Military Robots
Robotics
Robot
Common Operator Control Unit
Radio Control Modules

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Military Robots and Unmanned Vehicles Market Shares, Strategy, and Forecasts, Worldwide, 2009-2015

LEXINGTON, Massachusetts (January 22, 2010) – WinterGreen Research announces that it has a new study on Military Ground Robots and unmanned vehicles. The 2010 study has 513 pages, 190 tables and figures. Worldwide markets are poised to achieve significant growth as the military ground robots and unmanned vehicles are used globally. Growth comes as the nature of combat changes in every region while the globally integrated enterprise replaces nationalistic dominance.

Military robot automation of the defense process is the next wave of military evolution. As automated systems and networking complement the Internet, communication is facilitated on a global basis. The military charter is shifting to providing protection against terrorists and people seek to maintain a safe, mobile, independent lifestyle. Much of the military mission is moving to adopt a police force training mission, seeking to achieve protection of civilian populations on a worldwide basis.

According to Susan Eustis, the lead author of the study, “the purchase of Military Robots is dependent on budget constraints. The use of Military Robots is based on providing a robot that is less expensive to put in the field than a trained soldier. That automation of process has appeal to those who run the military.

Robots are automating military ground systems, permitting vital protection of soldiers and people in the field, creating the possibility of reduced fatalities. Mobile robotics operate independently of the operator.

The innovation coming from all the vendors is astounding. No one innovation is more significant than another. One vendor, BAE Systems has an ant size robot useful for reconnaissance and networking robots in development. As soldiers take up secure positions behind a wall, they deploy a small reconnaissance team. The initial deployment is poised to be a very, very small reconnaissance team. Some hopping, some flying, the stealthy autonomous reconnaissance squad vanishes into a suspicious building for several minutes, then relays the all-clear back to its partners outside when that is the case.



Source: BAE.

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What is good for a robotic unmanned ground vehicle is also good for an unmanned vehicle. Multiple technological, logistical, political and market forces share a quantum singularity that has brought mobile robotics to the point where robots are useful to every arm of the military services. This is a phenomenon that will have a major impact on the way we run the military and police societies.

Use of remote-control toys in Iraq started as improvised robots to check out possible roadside bombs. There has since been a flurry of activity on the robotic explosive ordnance disposal (EOD) front since that early beginning. Deliveries of smaller and cheaper Bots are anticipated.

The emergence of a market for intelligent, mobile robots for use in the field and the confined areas of city fighting presents many opportunities. Units used in public spaces and on the battlefield create a better, more flexible, more cost efficient military.

Technology is used to actuate the disparate robot types. Core robotics research and advances in robotic technology can be applied across a variety of robotic form factors and robotic functionality. Advances feed on and off of each other. With each new round of innovation, a type of technological cross pollination occurs that improves existing robotic platforms and opens up other avenues where intelligent mobile robots can be employed, effectively creating new markets.

Roboticists are more advanced in their training and in the tools available to create units. Military robots have evolved from units used in the field to manage different situations that arise. Robots save lives..

Defense security systems have an emphasis on causality reduction during combat. This has resulted in investment in robotics technology that is useful. Robotic research is on the fast track for government spending. Congress passed a law making it an Army goal that by 2015, one-third of the operational ground combat vehicles are unmanned. The US Navy and Marines have similar initiatives underway.

Military ground robot market forecast analysis indicates that vendor strategy is to pursue developing new applications that leverage leading edge technology. Robot solutions are achieved by leveraging the ability to innovate, to bring products to market quickly. Military purchasing authorities seek to reduce costs through design and outsourcing. Vendor capabilities depend on the ability to commercialize the results of research in order to fund further research. Government funded research is evolving some more ground robot capability.

Markets at \$831 million in 2009 are anticipated to reach \$9.7 billion by 2016.

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OPPORTUNITY ABOUNDS

WinterGreen Research, Inc.
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Companies Profiled

Market Leaders

BAE Systems
General Dynamics
iRobot
Kongsberg
Lockheed Martin
Northrop Grumman
QinetiQ / Foster-Miller
Telerob

Market Participants

5. Military Robot Company Profiles
QinetiQ North America / Foster-Miller
Robotic Technology Inc.
Versa / Allen-Vanguard
American Reliance Inc. (AMREL)
Gostai
VIA Technologies
Selected Manufacturers of Military Robots
Government Agencies and Other Organisations
Using Military Robots

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Military Robot Market Shares, Strategies, And Forecasts, Worldwide, 2010 to 2016

Report Methodology

This is the 428th report in a series of primary market research reports that provide forecasts in communications, telecommunications, the Internet, computer, software, telephone equipment, health equipment, and energy. Automated process and significant growth potential are a priorities in topic selection. The project leaders take direct responsibility for writing and preparing each report. They have significant experience preparing industry studies. Forecasts are based on primary research and proprietary data bases.

The primary research is conducted by talking to customers, distributors and companies. The survey data is not enough to make accurate assessment of market size, so WinterGreen Research looks at the value of shipments and the average price to achieve market assessments. Our track record in achieving accuracy is unsurpassed in the industry. We are known for being able to develop accurate market shares and projections. This is our specialty.

The analyst process is concentrated on getting good market numbers. This process involves looking at the markets from several different perspectives, including vendor shipments. The interview process is an essential aspect as well. We do have a lot of granular analysis of the different shipments by vendor in the study and addenda prepared after the study was published if that is appropriate.

Forecasts reflect analysis of the market trends in the segment and related segments. Unit and dollar shipments are analyzed through consideration of dollar volume of each market participant in the segment. Installed base analysis and unit analysis is based on interviews and an information search. Market share analysis includes conversations with key customers of products, industry segment leaders, marketing directors, distributors, leading market participants, opinion leaders, and companies seeking to develop measurable market share.

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Over 200 in depth interviews are conducted for each report with a broad range of key participants and industry leaders in the market segment. We establish accurate market forecasts based on economic and market conditions as a base. Use input/output ratios, flow charts, and other economic methods to quantify data. Use in-house analysts who meet stringent quality standards. Interviewing key industry participants, experts and end-users is a central part of the study. Our research includes access to large proprietary databases. Literature search includes analysis of trade publications, government reports, and corporate literature.

Findings and conclusions of this report are based on information gathered from industry sources, including manufacturers, distributors, partners, opinion leaders, and users. Interview data was combined with information gathered through an extensive review of internet and printed sources such as trade publications, trade associations, company literature, and online databases. The projections contained in this report are checked from top down and bottom up analysis to be sure there is congruence from that perspective.

The base year for analysis and projection is 2009. With 2009 and several years prior to that as a baseline, market projections were developed for 2010 through 2016. These projections are based on a combination of a consensus among the opinion leader contacts interviewed combined with understanding of the key market drivers and their impact from a historical and analytical perspective. The analytical methodologies used to generate the market estimates are based on penetration analyses, similar market analyses, and delta calculations to supplement independent and dependent variable analysis. All analyses are displaying selected descriptions of products and services.

This research includes referencde to an ROI model that is part of a series that provides IT systems financial planners access to information that supports analysis of all the numbers that impact management of a product launch or large and complex data center. The methodology used in the models relates to having a sophisticated analytical technique for understanding the impact of workload on processor consumption and cost.

WinterGreen Research has looked at the metrics and independent research to develop assumptions that reflect the actual anticipated usage and cost of systems. Comparative analyses reflect the input of these values into models.

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The variables and assumptions provided in the market research study and the ROI models are based on extensive experience in providing research to large enterprise organizations and data centers. The ROI models have lists of servers from different manufacturers, Systems z models from IBM, and labor costs by category around the world. This information has been developed from WinterGreen research proprietary data bases constructed as a result of preparing market research studies that address the software, energy, healthcare, telecommunications, and hardware businesses.

YOU MUST HAVE THIS STUDY

Military Robots and Unmanned Vehicles Market Shares, Strategies, and Forecasts, Worldwide, 2010 to 2016

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ABOUT THE COMPANY

WINTERGREEN RESEARCH, HAS A UNIQUE RESEARCH STRATEGY THAT RELATES TO IDENTIFYING MARKET TRENDS THROUGH READING AND INTERVIEWING OPINION LEADERS. BY READING THE ELECTRONIC EQUIVALENT OF 40 FEET OF PAPER, WINTERGREEN RESEARCH SENIOR ANALYSTS CAN LEARN A LOT MORE ABOUT MARKETS, A LOT FASTER THAN CAN BE LEARNED THROUGH EXPENSIVE SURVEYS AND FOCUS GROUPS. THINKING ABOUT MARKET TRENDS IS A HIGH PRIORITY AT WINTERGREEN RESEARCH. AS WITH ALL RESEARCH, THE VALUE PROPOSITION FOR COMPETITIVE ANALYSIS COMES FROM INTELLECTUAL INPUT.

IT IS A LUXURY REALLY, AVAILABLE TO ONLY A VERY FEW PEOPLE, TO BE ABLE TO GATHER INFORMATION, LOTS OF INFORMATION FROM READING MASSIVE AMOUNTS OF CONTENT, AND THEN TRYING TO MAKE SENSE OF THAT CONTENT. THE ABILITY TO THINK ABOUT MARKET TRENDS IS ENHANCED BY DOING IT OVER AND OVER FOR MANY DIFFERENT MARKETS. THAT IS WHAT WINTERGREEN RESEARCH IS ALL ABOUT: READING AND THINKING IS AN ESSENTIAL ASPECT OF COMPETITIVE ANALYSIS. TALKING TO OPINION LEADERS IS THE THIRD ESSENTIAL ASPECT OF PRODUCING GOOD, RELIABLE DATA.

WINTERGREEN RESEARCH, FOUNDED IN 1985, PROVIDES STRATEGIC MARKET ASSESSMENTS IN TELECOMMUNICATIONS, COMMUNICATIONS EQUIPMENT, HEALTH CARE, INTERNET AND ADVANCED COMPUTER TECHNOLOGY. INDUSTRY REPORTS FOCUS ON OPPORTUNITIES THAT EXPAND EXISTING MARKETS OR DEVELOP MAJOR NEW MARKETS. THE REPORTS ASSESS NEW PRODUCT AND SERVICE POSITIONING STRATEGIES, NEW AND EVOLVING TECHNOLOGIES, AND TECHNOLOGICAL IMPACT ON PRODUCTS, SERVICES, AND MARKETS. MARKET SHARES ARE PROVIDED. LEADING MARKET PARTICIPANTS ARE PROFILED, AND THEIR MARKETING STRATEGIES, ACQUISITIONS, AND STRATEGIC ALLIANCES ARE DISCUSSED. THE PRINCIPALS OF WINTERGREEN RESEARCH HAVE BEEN INVOLVED IN ANALYSIS AND FORECASTING OF INTERNATIONAL BUSINESS OPPORTUNITIES IN TELECOMMUNICATIONS AND ADVANCED COMPUTER TECHNOLOGY MARKETS FOR OVER 30 YEARS.

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ABOUT THE PRINCIPAL AUTHORS

ELLEN T. CURTISS, TECHNICAL DIRECTOR, CO-FOUNDER OF WINTERGREEN RESEARCH, CONDUCTS STRATEGIC AND MARKET ASSESSMENTS IN TECHNOLOGY-BASED INDUSTRIES. PREVIOUSLY SHE WAS A MEMBER OF THE STAFF OF ARTHUR D. LITTLE, INC., FOR 23 YEARS, MOST RECENTLY AS VICE PRESIDENT OF ARTHUR D. LITTLE DECISION RESOURCES, SPECIALIZING IN STRATEGIC PLANNING AND MARKET DEVELOPMENT SERVICES. SHE IS A GRADUATE OF BOSTON UNIVERSITY AND THE PROGRAM FOR MANAGEMENT DEVELOPMENT AT HARVARD GRADUATE SCHOOL OF BUSINESS ADMINISTRATION. SHE IS THE AUTHOR OF RECENT STUDIES ON WORLDWIDE TELECOMMUNICATIONS MARKETS, THE TOP TEN INTERNET EQUIPMENT COMPANIES, THE TOP TEN CONTRACT MANUFACTURING COMPANIES, AND THE TOP TEN TELECOMMUNICATIONS MARKET ANALYSIS AND FORECASTS.

SUSAN EUSTIS, PRESIDENT, CO-FOUNDER OF WINTERGREEN RESEARCH, HAS DONE RESEARCH IN COMMUNICATIONS AND COMPUTER MARKETS AND APPLICATIONS. SHE HOLDS SEVERAL PATENTS IN MICROCOMPUTING AND PARALLEL PROCESSING. SHE HAS THE ORIGINAL PATENTS IN ELECTRONIC VOTING MACHINES. SHE HAS NEW PATENT APPLICATIONS IN FORMAT VARYING, MULTIPROCESSING, AND ELECTRONIC VOTING. SHE IS THE AUTHOR OF RECENT STUDIES OF THE REGIONAL BELL OPERATING COMPANIES' MARKETING STRATEGIES, INTERNET EQUIPMENT, BIOMETRICS, A STUDY OF INTERNET EQUIPMENT, WORLDWIDE TELECOMMUNICATIONS EQUIPMENT, TOP TEN TELECOMMUNICATIONS, DIGITAL LOOP CARRIER, WEB HOSTING, WEB SERVICES, AND APPLICATION INTEGRATION MARKETS. MS. EUSTIS IS A GRADUATE OF BARNARD COLLEGE.

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