

WINTERGREEN RESEARCH, INC.

**Large and Mid Size Unmanned Ground Vehicles Market  
Shares, Strategies, and Forecasts, Worldwide, 2010 to 2016**

**Unmanned Ground Vehicles Improve Fighting Efficiency and  
Functionality**



*Picture by Susie Eustis*

**MOUNTAINS OF OPPORTUNITY**

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

[www.wintergreenresearch.com](http://www.wintergreenresearch.com)

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**CHECK OUT THESE KEY TOPICS**

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

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**Guns Mounted on Unmanned Vehicles**  
**Military Robots**  
**Auto Assault-12 (AA-2)**  
**Remote-Controlled Weapons**  
**Neural Robotics**  
**unmanned ground vehicles**  
**UGV**  
**Logistical support**  
**Vehicle reconnaissance roles**  
**Mobile recharging stations**  
**First responder unmanned ground vehicles**  
**Law enforcement unmanned ground vehicles**  
**Bomb detection unmanned ground vehicles**  
**Robot drive control**  
**Robot batteries**  
**First responder robots**  
**Law enforcement robots**  
**Sensor networks**  
**Bomb detection robots**  
**Robot drive control**  
**Robot batteries,**  
**<http://wintergreenresearch.com/reports/UGV.htm>**  
**Folding Transport Military Vehicles**  
**Common Operator Control Unit**  
**Radio Control Modules**

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## **Large and Mid Size Unmanned Ground Vehicles Market Shares, Strategy, and Forecasts, Worldwide, 2009-2015**

LEXINGTON, Massachusetts (September 22, 2010) – WinterGreen Research announces that it has a new study on large and mid size unmanned ground vehicles. The 2010 study has 474 pages, 175 tables and figures. Operational success of military unmanned ground vehicles is paving the way for wider adoption of UGV. Unmanned Ground vehicles (UGV) are assuming logistical support and reconnaissance roles. They have become mobile battery recharging stations.

Large unmanned vehicles represent an exciting breakthrough in military efficiency. Vehicles are positioned to support logistics missions, recharge batteries, carry soldier backpacks, and defuse bombs. They can provide a platform for launching laser defensive weapons. Vehicles are positioned to patrol and secure positions. They are very useful for border patrols. The shutdown of the U.S. future combat systems (FCS) program has deterred development of the large vehicles.

The companies with existing large and mid size unmanned ground vehicles already developed have achieved enormous strategic advantage because those existing product vehicles are the only ones that will be considered for installation going forward. As all development dollars have been eliminated in the short term, existing products will be funded as the military gets renewed interest in them. Both military and commercial opportunities will evolve from the automated process.

The shutdown of the UGV programs is in no way an indicator of any lack of value of the large unmanned vehicles. It merely represents a transition to different funding scenarios and different product iterations. What is most likely is that the unmanned ground vehicles (UGV) will be funded in the near term as a way to automate the army and reduce the number of people needed to create a credible ground force in any warlike encounter.

To position the UGVs as an effective extension of US presence in terrorist situations is realistic and appropriate. This will result in investment in automated process for vehicles that is appropriate and efficient.

According to Susan Eustis, President of WinterGreen Research, “there is no question that the large and mid size unmanned ground vehicles (UGV) will be funded again, the only question is what will be the rationale for the funding.”

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If the US military industrial complex seeks to create unrealistic scenarios like contemplating a war with China or some other unlikely event, the funding will be fraught with difficulty, and the stages of development will likely be in fits and starts. If, on the other hand, they position vehicles as transport automation, the process will be smoother.

In situations in Mexico where even one drug dealer cartel has more money than most countries, enough money to fund the US healthcare systems for 10 years, the UGVs are positioned to be of significant help in corralling criminals. This is more of a military operation than a police operation because of the level of resource that needs to be applied to take a stand against the bad guys.

The emergence of a market for intelligent, mobile vehicles for use in the field and the confined areas of city fighting presents many opportunities. Units used in public spaces and on the border create a better, more flexible, more cost efficient first responder and homeland security.

As illustrated in the chart, the development phase lasts through 2014. At that time, units become commercially feasible, initially for the military, then later on for commercial markets. These create enormous benefit for the economy, creating demand for new infrastructure and evolving new uses. Markets at \$637 million in 2009, sink to \$364 million in 2011 as development funds are cut, and grow again to reach \$2.9 billion by 2016 as companies leverage existing technology to field military unmanned ground vehicles.

Keywords: Unmanned Ground Vehicles, Ground Robotics, Military Bomb Detection Vehicles, Networks of Military Sensors, Unmanned Military Logistics Vehicles , Military Robots Market Shares, Unmanned Vehicles , Military Robots Market Forecasts, Maneuverable Military Unmanned Vehicles , Military Embedded Software, Sensor Network, Search And Rescue, Unmanned Navigation, Battery for Military Vehicles , Military Unmanned Vehicle Drive Control , Military Electronics, Military Vehicle Market Segments, Low Power Military Unmanned Vehicles, , , , , , , Guns Mounted on Unmanned Vehicles, Military Robots, Auto Assault-12 (AA-2), Remote-Controlled Weapons, Neural Robotics, unmanned ground vehicles, UGV, Logistical support, Vehicle reconnaissance roles, Mobile recharging stations, First responder unmanned ground vehicles, Law enforcement unmanned ground vehicles, Bomb detection unmanned ground vehicles, Robot drive control, Robot batteries, First responder robots, Law enforcement robots, Sensor networks, Bomb detection robots, Robot drive control, Robot batteries,, <http://wintergreenresearch.com/reports/UGV.htm>, Folding Transport Military Vehicles , Common Operator Control Unit, Radio Control Modules, unmanned ground vehicles, UGV, logistical support, vehicle reconnaissance roles, mobile recharging stations, first responder unmanned ground vehicles, law enforcement unmanned ground vehicles, bomb detection unmanned ground vehicles, robot drive control, robot batteries, first responder robots, law enforcement robots, sensor networks, bomb detection robots, robot drive control, robot batteries, <http://wintergreenresearch.com/reports/UGV.htm>

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*OPPORTUNITY ABOUNDS*

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Companies Profiled

**Market Leaders**

UNMANNED GROUND VEHICLE UGV COMPANY PROFILES

General Dynamics  
Lockheed Martin  
Northrop Grumman  
QinetiQ / Foster-Miller

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**Market Participants**

**BAE Systems**  
**AB Precision (Poole) Ltd**  
**Applied Research Associates, Inc.**  
**ARA**  
**ATK**  
**Boeing**  
**Caterpillar**  
**Concurrent Technologies**  
**DOK-ING**  
**Elbit Systems Ltd.,**  
**Frontline Robotics**  
**G-NIUS Unmanned Ground Systems Ltd**  
**General Dynamics / AxleTech International**  
**John Deere**  
**InRob Tech**  
**iRobot**  
**Mesa Robotics, Inc.MRI**  
**Omnitech Robotics**  
**Oshkosh**  
**Oto Melara SpA**  
**Robotic Technology Inc.**  
**RE2, Inc.**  
**SESI**  
**Stratom Warrior Tool and Payload Accessory Kit**  
**Telerob**  
**Textron**  
**Versa / Allen-Vanguard**  
**VIA Technologies**

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## Large and Mid Size Unmanned Ground Vehicles Market Shares, Strategies, And Forecasts, Worldwide, 2010 to 2016

### Report Methodology

This is the 456th 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**

### **Large and Mid Size 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 SERIOUS TASK DEVOTED TO GATHERING INFORMATION, LOTS OF INFORMATION FROM INTERVIEWING ALL THE OPINION LEADERS NO MATTER WHERE THEY ARE AND 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: INTERVIEWING, 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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