

Drone Robots: Markets Reach \$2.7 billion by 2022

LEXINGTON, Massachusetts (April 21, 2016) – WinterGreen Research announces that it has published a new study Drone Robots: Market Shares, Strategy, and Forecasts, Worldwide, 2016 to 2022. The 2016 study has 228 pages, 127 tables and figures. Worldwide drone robot markets are poised to achieve significant growth with the use of cameras on stable flying platforms that are used to help implement aerial entertainment and advertising. Entertainment light shows, advertising drone robots use LED technology to do innovative skywriting. Aerial visualization lets advertising firms achieve new ways of reaching large numbers of people with a relatively low cost, effective means and lets the drone robots do the work in an automated manner.

Smart drone robots can be preprogrammed to do skywriting. They use automated process leveraging integrated circuit technology to make words in the sky. every industry more productive with better, more flexible visualization.

Smart drone commercial uses provide the prospect of trillions of dollars in economic growth. Smart commercial drones connect seamlessly and securely to the Internet and to each other. Smart commercial drone aerial vehicle (UAV) technology has reached a level of maturity that has put these systems at the forefront of aerospace manufacturing. Procurement in every industry and around the entire world is adapting to drone availability. Drone advertising use cases are evolving rapidly. Banner pulling and skywriting are offered.

As U.S. regulators open up the skies to commercial drones by late 2016, fantastic growth will occur, accompanied by tremendous job growth. The fact that job growth will be achieved is enough to drive regulators in the US to ease constraints on drone use. There is incentive for the government to establish reasonable highways in the sky that are enforceable and useful to people.

Worldwide, drones are accepted as grownup toys, flying cameras useful for adding a perspective to life, to filming every event, every outing. Drones are achieving acceptance in a variety of advertising applications indoors. The ability to fly a preprogrammed route makes them useful in a confined space. Drone robot markets are leveraging robotic platforms in every industry.



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Intel RealSense technology can be used in a variety of innovative applications. Intel's RealSense camera module weighs as little as 8 grams and is less than 4mm thick. It brings depth perception to drones both indoors and outdoors with minimal impact to payload and flight times.

Ascending Technologies' expertise with auto pilot, inertial sensor and fusion algorithms combined with Intel's RealSense camera module will bring a new level of intelligence and self-awareness to the drone ecosystem.

Ascending Technologies uses the obstacle avoidance technology jointly developed with Intel to add a new level of safety to products. Drone operators and businesses relying on drone services from simplicity and safety of drone operations. Drones can fly close to obstacles using this technology. Reliable obstacle avoidance opens multiple fields of drone applications.

Triple redundant autopilot systems are for small UAVs. AscTec Trinity implements a strong technology with Intel,. The collaboration between Intel and Ascending Technologies brings high-quality engineered drone systems to a mass market. Advertising and entertainment have not been drone markets until now.

The Intel Edison component is truly remarkable, it permits implementation of the complex drone robots, able to see in a manner similar to human sight, using bifocal capabilities to navigate, to do sense and avoid maneuvers. The complex camera systems provide remarkable capability. Growth of these markets will be rapid and significant based on the usefulness of the robotic platform capability.

Intel is making the RealSense SDK available to developers. It has been selling the hardware in 2015 and 2016.

A critical feature of smart commercial drones is autonomous flight. Reliable "sense and avoid" technology can see what is around and use that data to make smart decisions about how to avoid accidents in real time.



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Intel drones can fly through a forest, navigating around trees. They can react to people who move towards them, dodging to avoid a collision. Sense-and-avoid technology is powered by Intel’s RealSense, a system of camera hardware and software developed to allow people to control their computer without having to physically touch the mouse or keyboard. The technology is extended beyond its original intent.

Intel partners with Ascending Technologies. AscTec Firefly uses lightweight carbon fiber mounts to attach six RealSense cameras on top for 360-degree coverage. Ascending built a custom PCI-express interface board and used a tiny, lightweight quad-core Intel Atom processor to crunch the data.

It ran an algorithmic chain, processing depth information from six cameras, performing real-time sensor data fusion and state estimation, near-field obstacle avoidance, and path planning navigation. RealSense was talking to the AscTec Trinity autopilot system.

Drone robots use automated process to make advertising and venue entertainment more productive. Drones provide better, more flexible visualization. Smart drone robots use cameras and LED displays to provide better advertising and entertainment. Smart commercial drones connect seamlessly and securely to the Internet and to each other.

Drone robot technology has reached a level of maturity that has put these systems at the forefront of advertising modernization. Marketing agencies around the entire world are adapting to drone availability, using aerial cameras to prepare visualization of presentations to people below. Use cases are evolving rapidly. Video, specialized video, targeted video, and advertising systems are offered.

According to Susan Eustis, lead author of the study, “Improved automation of advertising is one of the benefits of drone robots. The benefits of digital advertising are spreading to aerial presentations leveraging robotic aerial platforms.”

Use of drone robots represents a key milestone in provision of advertising value to every industry. It leverages entertainment. Customized cameras are used to take photos and share videos with stunning representations. Digital controls will further automate flying, making ease of use and flight stability a reality. New materials and new designs are bringing that transformation forward. By furthering innovation, continued growth is assured.”



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The worldwide market for drone robots is \$137 million in 2015, anticipated to reach \$2.7 billion by 2022. The complete report provides a comprehensive analysis of drone robots in different categories, illustrating the diversity of uses for remote flying devices in advertising and entertainment.

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WinterGreen Research supports various market segment programs; provides trusted technical services to the marketing departments. It carries out accurate market share and forecast analysis services for a range of commercial and government customers globally. These are all vital market research support solutions requiring trust and integrity.

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