Airborne LiDAR - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 130 pages | Mordor Intelligence

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Report description:

The Airborne LiDAR Market is expected to register a CAGR of 18% during the forecast period.

Key Highlights
- The combination of LiDAR scanning technology with an aerial deployment platform has enabled the user to extract extraordinary efficiency and speed for gathering accurate spatial data allowing him to support asset management needs for numerous industries such as Aerospace & Defense, Mining, Forestry & Precision Agriculture, Corridor mapping, oil & Gas.
- Surveying And Mapping LLC., with the addition of the state-of-the-art Trimble Harrier 68i airborne LiDAR system to SAM's in-house capabilities. These systems in combination with the three different modes of laser data collection, have enabled the company to enhance its ability to provide complete geospatial solutions and a full suite of LiDAR services.
- The evolution of drones further displays huge potential as aerial photos provide a much bigger perspective when it comes to tracking progress, inspecting the equipment, and measuring structures. Also, the increased usage of airborne lidars in construction projects is expected to drive market growth over the forecast period.
- Further, companies across various end-user industries are adopting airborne lidars rapidly, to enhance their capability and operational efficiency for forestry, rail, electrical utilities, and other high-density applications. For example, during the early onset of the pandemic, Atlantic used Teledyne Optech'snew Galaxy T2000 and G2 sensor system to enhance its airborne capability by accommodating two of the company's OptechGalaxy Prime airborne lidar sensors.
- In November 2021, Hexagon's Geosystems announced partnerships with Airbus to integrate two Leica Chiroptera 4X bathymetric LiDAR sensors for maritime surveillance into the C295 MSA, Airbus' Maritime Surveillance Aircraft. The technology has an object detection feature that enables real-time LiDAR data visualization and analysis during the flight
- Moreover, maintaining a high level of detail and accuracy, the airborne lidars can even scan buildings or an entire city in 3D. These lidars' ability to generate the exact replicas of such locations helps to reduce the time and cost of 3D modeling and assists

in creating more realistic visual effects. This further stimulates various companies to provide solutions for the media and entertainment industry.

Airborne LiDAR Market Trends

Aerospace & Defense to Hold the Largest Share

- The increasing investments by the regulatory bodies of the sector for the deployment of airborne lidars on aircraft, UAVs, and helicopters are expected to fuel the market growth over the forecast period. According to SIPRI, the United States led the list of countries with the highest military spending in 2021, with USD 801 billion dedicated to the military. This accounted for 38% of global military spending that year, which totaled 2.1 trillion US dollars.
- For instance, in November 2021, Evitado Technologies, a German startup, created a revolutionary system to prevent aircraft collisions. Their LiDAR technology can prevent aircraft damage caused by ground movement. A high-tech sensor system can be temporarily installed on an airplane or tow vehicles. The sophisticated system continuously monitors the area around the aircraft with a 360-degree field of view and alerts the operator for a high risk of collision.
- LiDAR technology is being used for 3D data capture for several applications. Detailed urban and non-urban terrain mapping can benefit military operations from the air and semi-autonomous vehicles. Swedish Defense Research Agency (FOI) has been working on demonstrating the possibilities for airborne sensor systems, especially 3D imaging lidar on different multi-rotor UAVs, for research and development purposes.
- Further, in July 2022, Fugro collaborated with the National Maritime Safety Authority (NMSA) on the survey, which will be used to update nautical charts and improve coastal zone management. It has completed a hydrographic survey in Papua New Guinea to determine a safe passage through the Star Reef Passage. The company used its LADS HD+ Airborne Lidar Bathymetry (ALB) system, which was deployed by a team of surveyors from the NMSA and Fugro.
- Further, higher resolution systems are deployed to collect details to identify targets and movement through the forest canopies and other obstacles, such as Airborne Laser Mine Detection Systems (ALMDS) for counter-mine warfare. Short-range LiDARsrecognize the presence of gases and liquids and other bio-threats in hazardous locations. The ability to detect rapidly and respond in real time gives LiDAR technology a significant edge over the other conventional technologies implemented in the industry.

North America is Expected to Hold Significant Share

- North America is one of the key developers of the technology, due to the increasing investments in accelerating innovations in the Airborne LiDAR landscape. These types of LiDAR systems are adopted by many industries, especially for application in engineering, construction, environment, and exploration, proving the effectiveness and, therefore, demand for this technology.
- Additionally, the increasing adoption of airborne lidars in archeology to identify the now-unpopulated landscape, ruins, and many more are expected to fuel the adoption of the technology in the region over the forecast period. As per the fiscal 2022 National Defense Authorization Act, Congress is granting the Missile Defense Agency authority to research and develop laser technology for use in ballistic and hypersonic missile defense applications.
- Some of the key players in the region have developed the technology that has provided them with a competitive advantage over others and the first mover's advantage. This is expected to fuel the growth of airborne lidars over the forecast period. Further, in March 2021, L3Harris Technologies has rewarded a contract to furnish eye-safe laser range finders (LRF) prototypes for the US Army's Abrams Gunner's Primary Sight. According to the company, the range finders allow the operator to establish ranges from inside the tank in battlefield conditions such as fog, smoke, dust, sand, and haze.

- Furthermore, in March 2021, Northrop Grumman was awarded a USD 72 million DoD (U.S. Department of Defense) contract through the High Energy Laser Scaling Initiative (HELSI) to demonstrate a high-energy laser prototype that will use Northrop Grumman's coherent beam combining technology.

Airborne LiDAR Industry Overview

The competitive rivalry amongst the players in the airborne lidar market is high owing to the presence of some key players, such as Teledyne Technologies and IGI Systems, amongst others. The players have gained a competitive advantage through research and development activities. Strategic partnerships and mergers & acquisitions have enabled the companies to achieve a more substantial footprint in the market.

- November 2021- Hexagon's Geosystems division announced a collaboration with Airbus to integrate two Leica Chiroptera 4X bathymetric LiDAR sensors for maritime surveillance into Airbus' C295 MSA, Maritime Surveillance Aircraft.
- September 2021 - Yellow Scan introduced a Mapper+, which comes with a fully automatized 20 Mpxcamera module and has an onboard LivoxAVIA laser scanner combined with the ApplanixAPX-15 UAV inertial navigation system.

Additional Benefits:

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

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