

# **U.S. Airborne LiDAR Market by Component (Lasers, Inertial Navigation Systems, Cameras, GPS/GNSS Receivers, Microelectromechanical Systems), Application (Corridor Mapping, Seismology, Exploration & Detection) - U.S. Opportunity Analysis and Industry Forecast, 2014 - 2022**

<https://marketpublishers.com/r/U6349E773CCEN.html>

Date: October 2016

Pages: 104

Price: US\$ 2,868.00 (Single User License)

ID: U6349E773CCEN

## **Abstracts**

Aerial LiDAR system is a mapping technology that uses a laser beam to measure the distance from an aircraft to the earth's surface by utilizing onboard GPS and inertial measurement unit (IMU) sensors to determine the geospatial location of terrestrial objects and their features with high precision.

In the U.S., aerial LiDAR systems are widely used in forestry management & planning, flood modeling, urban/city modeling, pollution modeling, coastline management, transport planning, and cellular network planning. A recent trend to collect higher point densities by flying lower and slower to collect multiple data sets is widely adopted in the industry. Scientists reported that by utilizing this method, the system is able to measure the ground with 5–20 or even up to 40 points per square meter. This method is expected to provide accurate and precise mapping of the object and is widely employed for topographic surveys in the U.S. Accuracy of aerial LiDAR systems in the past few years has been enhanced due to the latest advancements in LiDAR sensors.

Rise in the adoption rate of aerial LiDAR technology in the U.S. was observed owing to the growth of defense & aerospace and technological advancements in forestry & agriculture applications. In airborne applications, LiDAR technology provides exceptional advantages over RADAR technology such as improved accuracy, real-time mapping ability, and better visualization, which collectively drive the LiDAR market across U.S. Moreover, traditional specifications of aerial LiDAR systems are able to measure only one pulse per square meter point density; however, advancement in the

traditional aerial systems along with the multi-pulse technique in aerial LiDAR systems further supplements the growth of the market. However, various Federal Aviation Administration (FAA) regulations on drones restrain the growth of airborne LiDAR in the U.S.

U.S. Military Expenditure Compared to Other Countries, 2014 (%)

Source: Center for Arms Control and Non-Proliferation

In the year 2014, U.S. accounted for approximately 87% of the global military spending in Americas. Of the total U.S. military spending, technological upgradation holds a major share, which includes implementation of airborne LiDAR-based technology.

The market is segmented on the basis of component, application, and end user. Based on component, the market is segmented into lasers, inertial navigation systems, cameras, GPS/GNSS receivers, and Microelectromechanical systems. Based on application, the market is divided into corridor mapping, seismology, exploration & detection, and others. The market by end user comprises defense & aerospace, civil engineering, archaeology, forestry & agriculture, mining industry and transportation. Key players operating in this market are Faro Technologies Inc., Leosphere SaS, Leica Geosystems Inc. (Hexagon), 3D Laser Mapping Inc., Firmatek LLC, RIEGL Laser Measurement Systems GmbH, Teledyne Technologies, Quanergy Systems, Inc., Saab Group and Raymetrics S.A. among others.

#### POTENTIAL BENEFITS FOR STAKEHOLDERS:

This report provides an in-depth analysis of the world U.S. airborne LiDAR market along with current trends and future estimations to identify lucrative investment opportunities

Key drivers, opportunities, and restraints that shape the market along with their impact analysis are explained

Porter's Five Forces analysis highlights the potency of buyers and suppliers that participate in this market to facilitate better business decisions for stakeholders and strengthen their supplier and buyer networks

Market estimation of geographical regions is based on the current market scenario and future trends

#### U.S. AIRBORNE LiDAR SEGMENTATION

*U.S. Airborne LiDAR Market by Component (Lasers, Inertial Navigation Systems, Cameras, GPS/GNSS Receivers, Mic...*

The market is segmented on the basis of component, application, and end user.

#### BY COMPONENT

Lasers

Inertial Navigation Systems

Cameras

GPS/GNSS Receivers

Microelectromechanical Systems

#### BY APPLICATION

Corridor Mapping

Seismology

Exploration & Detection

Others

#### BY END USER

Defense & Aerospace

Civil Engineering

Archaeology

Forestry & Agriculture

Transportation and Logistics

Mining Industry

## KEY PLAYERS

Faro Technologies Inc.

Leosphere SaS

Leica Geosystems Inc. (Hexagon)

3D Laser Mapping Inc.

Firmatek LLC

RIEGL Laser Measurement Systems GmbH

Teledyne Technologies

Quanergy Systems, Inc.

Saab Group

Raymetrics S.A.

## OTHER PLAYERS IN VALUE CHAIN

FLIR Systems, Inc.

EHang, Inc.

3D Robotics, Inc.

Trimble Navigation

Merrick & Company

Surveying and Mapping, LLC

CyPhy Works Inc.

## Contents

### **CHAPTER: 1 INTRODUCTION**

- 1.1 Report description
- 1.2 Key benefits
- 1.3 Key market segments
- 1.4 Research methodology
  - 1.4.1 Secondary research
  - 1.4.2 Primary research
  - 1.4.3 Analyst tools and models

### **CHAPTER: 2 EXECUTIVE SUMMARY**

- 2.1 CXO perspective

### **CHAPTER: 3 MARKET OVERVIEW**

- 3.1 Market definition and scope
- 3.2 Key findings
  - 3.2.1 Top impacting factors
  - 3.2.2 Top investment pockets
  - 3.2.3 Top winning strategies
- 3.3 Porters five force analysis
  - 3.3.1 Moderate bargaining power of suppliers due to high demand, customized services, domestic players and low switching cost
  - 3.3.2 Moderate bargaining power of buyer due to presence of viable substitute and limited quality product providers
  - 3.3.3 Moderate threat of substitute due to cost-effective substitute and price insensitive buyers
  - 3.3.4 Higher capital investments, presence of established players and government regulations have led to low threat of new entrants
  - 3.3.5 Moderate industry rivalry due to presence of few dominant players, high exit barriers due to significant initial investment
- 3.4 Value chain analysis
- 3.5 Key market players positioning
- 3.6 Drivers
  - 3.6.1 Expanding applications in defence and civil engineering
  - 3.6.2 Falling price of drones

3.6.3 Increasing number of drones in U.S.

3.6.4 Rise in demand for 3D imaging

3.7 Restraint

3.7.1 Regulations by FAA (Federal Aviation Administration) for commercial usage of drones

3.8 Opportunities

3.8.1 Increasing demand in forestry and agriculture

3.8.2 A solution for degraded visual environment in military applications

## **CHAPTER: 4 U.S. AIRBORNE LIDAR MARKET, BY COMPONENT**

4.1 Overview

4.2 Lasers

4.2.1 Key market trends

4.2.2 Key growth factors & opportunities

4.2.3 Market size and forecast

4.3 Inertial navigation system

4.3.1 Key market trends

4.3.2 Key growth factors and opportunities

4.3.3 Market size and forecast

4.4 Camera

4.4.1 Key market trends

4.4.2 Key growth factors and opportunities

4.4.3 Market size and forecast

4.5 GPS/GNSS receiver

4.5.1 Key market trends

4.5.2 Key growth factors and opportunities

4.5.3 Market size and forecast

4.6 Microelectromechanical system (MEMS)

4.6.1 Key market trends

4.6.2 Key growth factors and opportunities

4.6.3 Market size and forecast

## **CHAPTER: 5 U.S. AIRBORNE MARKET BY APPLICATION**

5.1 Overview

5.2 Corridor mapping

5.2.1 Key market trends

5.2.2 Key growth factors and opportunities

- 5.2.3 Market size and forecast
- 5.3 Seismology
  - 5.3.1 Key market trends
  - 5.3.2 Key growth factors and opportunities
  - 5.3.3 Market size and forecast
- 5.4 Exploration and detection
  - 5.4.1 Key market trends
  - 5.4.2 Key growth factors and opportunities
  - 5.4.3 Market size and forecast
- 5.5 Others
  - 5.5.1 Key market trends
  - 5.5.2 Key growth factors and opportunities
  - 5.5.3 Market size and forecast

## **CHAPTER: 6 U.S. AIRBORNE LIDAR MARKET, BY END USER**

- 6.1 Overview
- 6.2 Defense & Aerospace
  - 6.2.1 Key market trends
  - 6.2.2 Key growth factors and opportunities
  - 6.2.3 Market size & forecast
- 6.3 Civil engineering
  - 6.3.1 Key market trends
  - 6.3.2 Key growth factors and opportunities
  - 6.3.3 Market size & forecast
- 6.4 Forestry and Agriculture
  - 6.4.1 Key market trends
  - 6.4.2 Key growth factors and opportunities
  - 6.4.3 Market size & forecast
- 6.5 Transportation & logistics
  - 6.5.1 Key market trends
  - 6.5.2 Key growth factors and opportunities
  - 6.5.3 Market size & forecast
- 6.6 Archaeology
  - 6.6.1 Key market trends
  - 6.6.2 Key growth factors and opportunities
  - 6.6.3 Market size & forecast
- 6.7 Mining industry
  - 6.7.1 Key market trends



- 6.7.2 Key growth factors and opportunities
- 6.7.3 Market size & forecast

## **CHAPTER: 7 COMPANY PROFILES**

- 7.1 Faro Technologies Inc.
  - 7.1.1 Company overview
  - 7.1.2 Business performance
  - 7.1.3 Key strategies and developments
- 7.2 Leosphere SaS
  - 7.2.1 Company overview
  - 7.2.2 Key strategies and developments
- 7.3 Leica Geosystems Inc. (Hexagon)
  - 7.3.1 Company overview
  - 7.3.2 Business performance
  - 7.3.3 Key strategies and developments
- 7.4 D Laser Mapping Inc.
  - 7.4.1 Company overview
  - 7.4.2 Key Strategies and developments
- 7.5 Firmatek LLC
  - 7.5.1 Company overview
  - 7.5.2 Key strategies and developments
- 7.6 RIEGL Laser Measurement Systems GmbH
  - 7.6.1 Company overview
  - 7.6.2 Key Strategies and Developments
- 7.7 Teledyne Technologies
  - 7.7.1 Company overview
  - 7.7.2 Business performance
  - 7.7.3 Key strategies and developments
- 7.8 Quanergy Systems, Inc.
  - 7.8.1 Company overview
  - 7.8.2 Key strategies and developments
- 7.9 Saab Group
  - 7.9.1 Company overview
  - 7.9.2 Business performance
  - 7.9.3 Key strategies & developments
- 7.10 Raymetrics S.A.
  - 7.10.1 Company overview
  - 7.10.2 Key strategies & developments

Other players in the value chain include

FLIR Systems, Inc.

EHang, Inc.

3D Robotics, Inc.

Trimble Navigation

Merrick & Company

Surveying and Mapping, LLC

s Inc. CyPhy Work

Profiles of these players are not included. The same will be included on request

## List Of Tables

### LIST OF TABLES

TABLE 1 FACTORS AND THEIR IMPACT ON U.S. AIRBORNE LIDAR MARKET

TABLE 2 REDUCING COST OF COMMERCIAL DRONES, (2010-2015)

TABLE 3 U.S. AIRBORNE LIDAR MARKET, BY COMPONENT, 2014-2022 (\$MILLION)

TABLE 4 U.S. AIRBORNE LIDAR MARKET REVENUE IN LASERS (\$MILLION),  
2014-2022

TABLE 5 U.S. AIRBORNE LIDAR MARKET REVENUE IN INS (\$MILLION), 2014-2022

TABLE 6 U.S. AIRBORNE LIDAR MARKET REVENUE IN CAMERAS (\$MILLION),  
2014-2022

TABLE 7 U.S. AIRBORNE LIDAR MARKET REVENUE IN GPS/GNSS (\$MILLION),  
2014-2022

TABLE 8 U.S. AIRBORNE LIDAR MARKET REVENUE IN MEMS (\$MILLION),  
2014-2022

TABLE 9 U.S. AIRBORNE LIDAR MARKET, BY APPLICATION, 2014-2022  
(\$MILLION)

TABLE 10 U.S. AIRBORNE LIDAR MARKET REVENUE IN CORRIDOR MAPPING  
(\$MILLION), 2014-2022

TABLE 11 U.S. AIRBORNE LIDAR MARKET REVENUE IN SEISMOLOGY  
(\$MILLION), 2014-2022

TABLE 12 U.S. AIRBORNE LIDAR MARKET REVENUE IN EXPLORATION AND  
DETECTION (\$MILLION), 2014-2022

TABLE 13 U.S. AIRBORNE LIDAR MARKET REVENUE IN OTHERS (\$MILLION),  
2014-2022

TABLE 14 U.S. AIRBORNE LIDAR MARKET, BY END USER (\$MILLION), 2014-2022

TABLE 15 U.S. AIRBORNE LIDAR MARKET REVENUE IN DEFENSE AND  
AEROSPACE (\$MILLION), 2014-2022

TABLE 16 U.S. AIRBORNE LIDAR MARKET REVENUE IN CIVIL ENGINEERING  
(\$MILLION), 2014-2022

TABLE 17 U.S. AIRBORNE LIDAR MARKET REVENUE IN FORESTRY AND  
AGRICULTURE (\$MILLION), 2014-2022

TABLE 18 U.S. AIRBORNE LIDAR MARKET REVENUE IN TRANSPORTATION &  
LOGISTICS (\$MILLION), 2014-2022

TABLE 19 U.S. AIRBORNE LIDAR MARKET REVENUE IN ARCHEOLOGY  
(\$MILLION), 2014-2022

TABLE 20 U.S. AIRBORNE LIDAR MARKET REVENUE IN MINING INDUSTRY  
(\$MILLION), 2014-2022

TABLE 21 FARO TECHNOLOGY INC.: COMPANY SNAPSHOT

TABLE 22 LEOSPHERE SAS: COMPANY SNAPSHOT

TABLE 23 LEICA GEOSYSTEMS INC. (HEXAGON): COMPANY SNAPSHOT

TABLE 25 FIRMATEK LLC: COMPANY SNAPSHOT

TABLE 26 RIEGL LASER MEASUREMENT SYSTEMS: COMPANY SNAPSHOT

TABLE 27 OPTTECH INC.: COMPANY SNAPSHOT

TABLE 28 QUANERGY SYSTEMS, INC.: COMPANY SNAPSHOT

TABLE 29 SAAB GROUP - COMPANY SNAPSHOT

TABLE 30 RAYMETRICS S.A. - COMPANY SNAPSHOT

## List Of Figures

### LIST OF FIGURES

- FIG. 1 U.S. MILITARY EXPENDITURE COMPARED TO OTHER COUNTRIES, 2014 (%)
- FIG. 2 U.S. AIRBORNE LIDAR MARKET, RESEARCH METHODOLOGY
- FIG. 3 U.S. AIRBORNE LIDAR MARKET SEGMENTS, REVENUE & CAGR, 2016-2022
- FIG. 4 TOP INVESTMENT POCKETS
- FIG. 5 TOP WINNING STRATEGIES IN U.S. AIRBORNE LIDAR MARKET, 2014-2016
- FIG. 6 PORTERS FIVE FORCE ANALYSIS
- FIG. 7 VALUE CHAIN ANALYSIS OF U.S. AIRBORNE LIDAR MARKET
- FIG. 8 COMPANIES INVOLVED IN AIRBORNE LIDAR MANUFACTURING PROCESS
- FIG. 9 KEY MARKET PLAYERS POSITIONING
- FIG. 10 COUNTRY-WISE NUMBER OF REGISTERED COMMERCIAL DRONE OPERATORS, 2015
- FIG. 11 PROJECTED COMMERCIAL ANNUAL UAV SALES, 2015-2025 (UNITS)
- FIG. 12 COMPARATIVE MARKET SHARE ANALYSIS OF U.S. AIRBORNE LIDAR MARKET, BY COMPONENT, 2015 & 2022 (% SHARE)
- FIG. 13 U.S. AIRBORNE LIDAR MARKET REVENUE IN LASER (\$MILLION), 2014-2022
- FIG. 14 U.S. AIRBORNE LIDAR MARKET REVENUE IN INS (\$MILLION), 2014-2022
- FIG. 15 U.S. AIRBORNE LIDAR MARKET REVENUE IN CAMERAS (\$MILLION), 2014-2022
- FIG. 16 U.S. AIRBORNE LIDAR MARKET REVENUE IN GPS/GNSS (\$MILLION), 2014-2022
- FIG. 17 U.S. AIRBORNE LIDAR MARKET REVENUE IN MEMS (\$MILLION), 2014-2022
- FIG. 18 COMPARATIVE MARKET SHARE ANALYSIS OF U.S. AIRBORNE LIDAR MARKET, BY APPLICATION, 2015 & 2022 (% SHARE)
- FIG. 19 U.S. AIRBORNE LIDAR MARKET REVENUE IN CORRIDOR MAPPING (\$MILLION), 2014-2022
- FIG. 20 U.S. AIRBORNE LIDAR MARKET REVENUE IN SEISMOLOGY (\$MILLION), 2014-2022
- FIG. 21 U.S. AIRBORNE LIDAR MARKET REVENUE IN EXPLORATION AND DETECTION (\$MILLION), 2014-2022
- FIG. 22 U.S. AIRBORNE LIDAR MARKET REVENUE IN OTHERS (\$MILLION), 2014-2022
- FIG. 23 USES OF COMMERCIAL DRONES IN THE U.S.

FIG. 24 COMPARATIVE MARKET SHARE ANALYSIS OF U.S. AIRBORNE LIDAR MARKET, BY END USER (% SHARE), 2015 & 2022

FIG. 25 NUMBER OF UNMANNED AIRCRAFT SYSTEMS IN DEPARTMENT OF DEFENSE, 2015-2020

FIG. 26 U.S. AIRBORNE LIDAR MARKET REVENUE IN DEFENSE AND AEROSPACE (\$MILLION), 2014-2022

FIG. 27 U.S. AIRBORNE LIDAR MARKET REVENUE IN CIVIL ENGINEERING (\$MILLION), 2014-2022

FIG. 28 U.S. AIRBORNE LIDAR MARKET REVENUE IN FORESTRY AND AGRICULTURE (\$MILLION), 2014-2022

FIG. 29 DRONE VS IN-PERSON DELIVERY CHARGES IN E-COMMERCE SECTOR

FIG. 30 NUMBER OF CUSTOMERS WILLING TO PAY FOR SAME-DAY DELIVERY

FIG. 31 U.S. AIRBORNE LIDAR MARKET REVENUE IN TRANSPORTATION & LOGISTICS (\$MILLION), 2014-2022

FIG. 32 U.S. AIRBORNE LIDAR MARKET REVENUE IN ARCHEOLOGY (\$MILLION), 2014-2022

FIG. 33 COAL PRODUCTION IN THE U.S., 2010-2014

FIG. 34 U.S. AIRBORNE LIDAR MARKET REVENUE IN MINING INDUSTRY (\$MILLION), 2014-2022

FIG. 35 FARO TECHNOLOGIES INC.: REVENUE (\$MILLION) 2013-2015

FIG. 36 FARO TECHNOLOGIES INC.: REVENUE BY REGION (%), 2015

FIG. 37 LEICA GEOSYSTEMS: REVENUE (\$MILLION), 2013-2015

FIG. 38 LEICA GEOSYSTEMS: REVENUE BY REGION (%), 2015

FIG. 39 TELEDYNE TECHNOLOGIES: REVENUE (\$MILLION), 2013-2015

FIG. 40 TELEDYNE TECHNOLOGIES: REVENUE BY REGION (%), 2015

FIG. 41 SAAB GROUP: SALES (\$MILLION), 2013-2015

FIG. 42 SAAB GROUP: REVENUE BY REGIONS (%), 2015

## I would like to order

Product name: U.S. Airborne LiDAR Market by Component (Lasers, Inertial Navigation Systems, Cameras, GPS/GNSS Receivers, Microelectromechanical Systems), Application (Corridor Mapping, Seismology, Exploration & Detection) - U.S. Opportunity Analysis and Industry Forecast, 2014 - 2022

Product link: <https://marketpublishers.com/r/U6349E773CCEN.html>

Price: US\$ 2,868.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/U6349E773CCEN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below  
and fax the completed form to +44 20 7900 3970