

LiDAR Software Market - A Global and Regional Analysis: Focus on Product, Application, and Country Analysis - Analysis and Forecast, 2022-2031

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Abstracts

LiDAR Software Market Overview

The global LiDAR software market was valued at \$335.4 million in 2022 and is anticipated to reach \$1,940.2 million by 2031, witnessing a CAGR of 21.53% during the forecast period 2022-2031. The growth in the LiDAR software market is expected to be driven by an increasing focus on advanced LiDAR solutions for improvement in existing advanced driver assistance systems (ADAS) features in the automotive industry, growing demand for LiDAR solutions in surveying and mapping, and rising adoption of LiDAR solutions for streamlining construction projects.

Market Lifecycle Stage

The LiDAR software market is in a growth phase, wherein the number of companies offering LiDAR software solutions is increasing rapidly. Latest technological advancements in LiDAR hardware and software are helping to reduce the cost of such solutions, which in turn is boosting the adoption of LiDAR solutions across the globe. LiDAR software solution providers are increasingly partnering with other key stakeholders in the LiDAR software ecosystem to expand their global footprint. Moreover, the growing need for affordable and user-friendly LiDAR software solutions is one of the primary factors shaping the LiDAR software industry. Leading LiDAR hardware solution providers have been working on bolstering their capabilities related to the production of LiDAR software solutions in-house to provide an extra or added advantage for their offerings. With significant demand for LiDAR solutions being anticipated over the coming years during the forecast period, primarily from automotive and smart infrastructure applications, cut-throat market competition is expected among

established and emerging LiDAR software solutions market in the LiDAR software industry.

Impact of LiDAR Software Market

The LiDAR software market is driven by several factors, such as increasing focus on advanced LiDAR solutions for improvement in existing ADAS features in the automotive industry, growing demand for LiDAR solutions in surveying and mapping, and rising adoption of LiDAR solutions for streamlining construction projects.

LiDAR software solution providers are partnering with other key stakeholders and investing significantly toward the development of advanced LiDAR software solutions to mitigate the growing demand for user-friendly, cost-effective, and high-performance LiDAR software solutions. With the growing demand for advanced LiDAR perception solutions amongst autonomous driving and smart infrastructure applications, the LiDAR software market is expected to grow significantly during the forecast years.

Market Segmentation:

Segmentation 1: by Application

Forestry and Environmental

Survey and Mapping

Automotive

Construction and Infrastructure

Others

Amongst all the applications of LiDAR software solutions, construction and infrastructure have generated the highest LiDAR software revenues. Much of this can be ascribed to the growing demand for advanced LiDAR solutions across various construction and infrastructure projects, including highway, railway, tunnel surveys, and smart cities. However, it is the automotive segment that is expected to grow at the fastest rate, owing to the growing demand for LiDAR perception and fusion solutions for autonomous driving applications.

Segmentation 2: by Technology Type

Mechanical

Solid State

Based on the technology type, the mechanical segment dominated the global LiDAR software market in 2021. Nowadays, the majority of commercially available LiDAR solutions in the market use micro- or macro-scale mechanical motion. The LiDAR manufacturers have been working on the development of LiDAR sensors having solid state capabilities.

Segmentation 3: by Product Type

Simulation Software

Mapping Software

Processing Software

In terms of product type, mapping software solutions generated the majority of revenues in the LiDAR software market in 2021. However, with the growing demand for high-performance LiDAR data processing solutions, the processing software segment is expected to register significant growth during the review period.

Segmentation 4: by Deployment

Airborne

Terrestrial

The LiDAR software market has been categorized into airborne and terrestrial on the basis of deployment. Most of the LiDAR solutions are being deployed in terrestrial applications in the current market scenario; however, faster growth is expected from airborne deployment in the coming years during the forecast period.

Segmentation 5: by Region

North America

Europe

U.K.

China

Asia-Pacific and Japan

Rest-of-the-World

North America held the largest market share in the LiDAR software market in 2021. This region is one of the largest markets for automotive and construction and infrastructure LiDAR applications and is home to some of the major players operating in the LiDAR software market. Moreover, the adoption of LiDAR software solutions is expected to grow significantly over the coming years, owing to the declining prices of integrated LiDAR solutions and considerable investment toward technological innovation in LiDAR software solutions. However, in terms of growth, Europe and China are expected to lead the LiDAR software market during the forecast period (2022-2032). Both these regions are likely to witness a multi-fold growth in the demand for LiDAR software solutions over the next decade, a significant portion of which is expected to come from autonomous driving and smart infrastructure applications.

Recent Developments in the LiDAR Software Market

In January 2023, Quanergy Systems, Inc. launched a LiDAR-based hyper-accurate mantrap tailgating solution. This mantrap solution comprises the company's perception software and MQ-8 series LiDAR sensors.

In December 2022, LeddarTech Inc. entered into a development and commercial partnership agreement with Ficosa International S.A., a Spain-based multinational corporation involved in the R&D and production of automotive components and systems. Under the terms of this agreement, Ficosa is to integrate the former's LeddarVision software solution into its own

ADAS solution for parking.

In December 2022, Innoviz Technologies Ltd entered into a partnership agreement with Outsight SA, a Paris (France)-based start-up company that specializes in real-time 3-D situation awareness solutions. Under this partnership agreement, Innoviz's LiDAR InnovizOne is to be integrated with the processing software solution of the latter, thereby enabling 3-D localization and perception capabilities for LiDAR solutions used in automotive, industrial, and smart city applications.

In December 2022, Blickfeld GmbH established a new branch office in Shanghai (China) with an aim to expand its global footprint and offer its solutions to its target customers in China, one of the major markets for LiDAR solutions.

In October 2022, Velodyne LiDAR, Inc. acquired Bluecity, a Canada-based AI software provider that primarily offers advanced LiDAR solutions addressing infrastructure, safety, and traffic issues.

Demand - Drivers and Limitations

Following are the demand drivers of the LiDAR software market:

Increasing Focus on Advanced LiDAR Solutions for Improvement in Existing ADAS Features in the Automotive Industry

Growing Demand for LiDAR Solutions in Surveying and Mapping

Rising Adoption of LiDAR Solutions for Streamlining Construction Projects

The following are the limitations of the LiDAR software market:

High Cost of LiDAR Solutions

Availability of Alternative Cost-Effective Solutions

LiDAR Software Complexity in Autonomous Vehicles

How can this report add value to an organization?

Product/Innovation Strategy: Globally, the leading and emerging LiDAR software solution providers are continuously working to make their vehicles more secure than ever. The growing need for affordable and high-performing LiDAR software solutions is one of the major factors for the growth of the LiDAR software industry. The market is highly fragmented, and local players operating in the LiDAR software market have been successful to a certain extent in strengthening their market position in their respective local markets. However, with the rise of autonomous driving and smart infrastructure applications, global players are increasingly focusing on developing LiDAR software solutions for their potential global customer base. Moreover, the LiDAR software market has witnessed several mergers and acquisitions over the past few years, wherein the companies are trying to bolster their capabilities and gain a dominant market share in the LiDAR software industry.

Growth/Marketing Strategy: The LiDAR software market has been growing at a rapid pace. The market offers enormous opportunities for existing and emerging market players. Some of the strategies covered in this segment are mergers and acquisitions, product launches, partnerships and collaborations, business expansions, and investments. The strategies preferred by companies to maintain and strengthen their market position primarily include mergers and acquisitions and product launches.

Competitive Strategy: The key players in the LiDAR software market analyzed and profiled in the study include LiDAR software solution providers that develop, maintain, and market LiDAR software solutions. Moreover, a detailed competitive benchmarking of the players operating in the LiDAR software market has been done to help the reader to understand the ways in which players stack against each other, presenting a clear market landscape. Additionally, comprehensive competitive strategies such as partnerships, agreements, and collaborations will aid the reader in understanding the untapped revenue pockets in the market.

Key Market Players and Competition Synopsis

The companies that are profiled have been selected based on inputs gathered from primary experts and analyzing company coverage, product portfolio, and market penetration.

Of the 15 profiled companies in the report, the private companies operating in the global LiDAR software market accounted for around 48% of the market share in 2021, while

the public companies operating in the market captured around 52% of the market share.

Key Companies Profiled

Private Companies

Phoenix LiDAR Systems

Terrasolid

GreenValley International

Geo-Plus

GeoCue

Routescene

YellowScan

LeddarTech Inc.

Blickfeld GmbH

Public Companies

Velodyne LiDAR, Inc.

Shanghai Huace Navigation Technology Ltd. (CHC Navigation)

Leica Geosystems AG - Part of Hexagon AB

Quanergy Systems, Inc.

Innoviz Technologies Ltd

Teledyne Geospatial

Key Start-Ups in the LiDAR Software Ecosystem

Seoul Robotics

Neuvition, Inc.

MatrixSpace

Aeva Inc.

Outsight SA

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