

Light Detection and Ranging (LiDAR): Revolutionizing Remote Sensing and 3D Mapping

Increasing adoption of LiDAR in engineering and construction applications is one of the major factors driving LiDAR market revenue growth

VANCOUVER, BC, CANADA, June 14, 2023 /EINPresswire.com/ -- The global [Light Detection and Ranging \(LiDAR\) Market](#) size was USD 1,821.3 Million in 2021 and is expected to register a revenue CAGR of 12.5% during the forecast period, according to latest analysis by Emergen Research. Rising adoption of LiDAR in Unmanned Aerial

Vehicles (UAVs) and engineering and construction applications, increasing investments in Research & Development (R&D) activities, and growing use of LiDAR to navigate hazardous or challenging terrain are some of the key factors driving market revenue growth.



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LiDAR Market Size – USD 1,821.3 Million in 2021, Market Growth – at a CAGR of 12.5%, Market Trends – Rising adoption of LiDAR in Unmanned Aerial Vehicles (UAVs)”

Emergen Research

There are several applications for LiDAR, including geography, mineral extraction, forestry, civil engineering, architecture, and archaeology. Lidar systems allow scientists and mapping professionals to examine both natural and manmade environments with accuracy, precision, and flexibility. In addition, use of LiDAR in Geographical Information Systems (GIS) applications, emergence of 4D LiDAR, and easing of regulations related to use of commercial drones in different applications are other factors driving revenue growth of the market. Moreover, increasing investments in LiDAR startups by

automotive giants, opportunities for SWIR-based design in long term, technological shifts with adoption of solid state, MEMS, flash LiDAR, and other LiDAR technologies, development of better geospatial solutions using sensor fusion, and initiatives undertaken by governments of different

countries to encourage use of LiDAR drones for large-scale surveys are also expected to provide growth opportunities to LiDAR market players and drive market revenue growth during the forecast period

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Major Companies and Competitive Landscape

Teledyne Geospatial

Leica Geosystems AG

Trimble Inc.

Xenomatrix

Riegl Laser Measurement Systems GmbH

Sick AG

SURESTAR

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Some Key Highlights From the Report

The 2D segment accounted for largest revenue share in 2021. Accuracy is made possible by light traveling at a constant speed through air. X and Y dimensions are captured by 2D sensors using a single plane of lasers, as a result, single rotating laser beam or a constant ring of light emitted can be achieved. Ring lasers and 2D LiDAR sensors both gather the same kind of X and Y-dimensional information. Best sensors to use for activities, such as range and detection, are 2D sensors. In addition, robot's surroundings are scanned and detected using active optical sensors, such as 2D LiDAR Online, hence 360-degree and virtual tours are also getting more popular. Furthermore, virtual 2D representations of a region can be made using LiDAR pulses and these representations can be utilized to generate virtual tours, which is significantly driving revenue growth of this segment.

The sensors segment is expected to register at a steady revenue growth rate during the forecast period. This is due to rapid technological advancements in end-use industries and significant

investments in ultra-thin solid-state LiDAR sensor that sees 360 degrees. For instance, LiDAR is a well-known range-finding technique that detects objects by shining light onto them. In the automotive industry, a LiDAR sensor serves as an eye for autonomous vehicles, assisting them in determining the distance to surrounding objects as well as vehicle's speed or direction.

The Europe market accounted for a significant revenue share in 2021. This is due to rising demand for mechanical LiDAR in industries such as automotive, manufacturing, and industrial purposes is. In addition, presence of important businesses, such as Hexagon AB, Sick AG, Leoshpere, and others are also expected to drive market revenue growth.

On 9 November 2022, RoboSense launched E1, A high-performance flash solid-state LiDAR. It is a new product platform based on area array transceiver technology and application-specific designed circuits. E1 will assist partners to further bridge the gap in smart driving perception and improve all-scenario perception capability of automated and autonomous vehicles.

To know more about the report, visit @ <https://www.emergenresearch.com/industry-report/light-detection-and-ranging-market>

Emergen Research has segmented the global LiDAR market based on technology, component, type, range, application, end-use, and region:

Technology Outlook (Revenue, USD Million; 2019-2030)

2D

3D

4D

Component Outlook (Revenue, USD Million; 2019-2030)

Laser Scanner

Sensors

Navigation and Positioning Systems

Others

Type Outlook (Revenue, USD Million; 2019-2030)

Solid-state

Mechanical

Range Outlook (Revenue, USD Million; 2019-2030)

Short

Medium

Long

Application Outlook (Revenue, USD Million; 2019-2030)

Corridor Mapping

Environment

Engineering

ADAS and Driverless Cars

Law Enforcement

Others

End-Use Outlook (Revenue, USD Million; 2019-2030)

Automotive

Defense and Aerospace

Healthcare

Agriculture

Mining

Entertainment

Others

Regional Outlook (Revenue, USD Million; 2019-2030)

North America (U.S., Canada)

Europe (U.K., Italy, Germany, France, Rest of EU)

Asia Pacific (India, Japan, China, South Korea, Australia, Rest of APAC)

Latin America (Chile, Brazil, Argentina, Rest of Latin America)

Middle East & Africa (Saudi Arabia, U.A.E., South Africa, Rest of MEA)

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Key Questions Answered in the Report:

What is the growth rate of the Light Detection and Ranging (LiDAR) market? What is the anticipated market valuation of Light Detection and Ranging (LiDAR) industry by 2027?

What are the key growth driving and restraining factors of the Light Detection and Ranging (LiDAR) market?

Who are the prominent players operating in the market? What are the key strategies adopted by these companies?

What are the key opportunities and growth prospects of the Light Detection and Ranging (LiDAR) industry over the forecast period?

Which region is expected to show significant growth in the coming years?

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Eric Lee

Emergen Research

+ +91 90210 91709

sales@emergenresearch.com

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