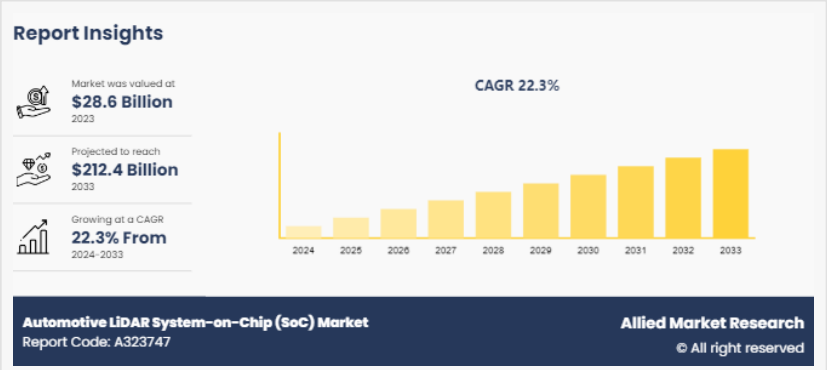
Navigating the Future: Automotive LiDAR System-on-Chip (SoC) Market Growth at 22.3% CAGR

The Automotive LiDAR System-on-Chip (SoC) industry is rapidly advancing, driven by the increasing demand for autonomous driving and (ADAS) .



Automotive LiDAR System-on-Chip (SoC) Market Growth

WILMINGTON, NEW CASTLE, DE, UNITED STATES, December 10, 2024 /EINPresswire.com/ -- Allied Market Research published a report, titled, "Automotive LiDAR system-on-chip (SoC) Market By technology type (mechanical LiDAR, and solid state LiDAR) By vehicle type (passenger vehicles, and commercial vehicles) By application (Adaptive Cruise Control (ACC) , Lane Keeping Assistance System (LKAS) , Traffic Jam Assist (TJA) , Automated Parking System (APS) , and others) : Global Opportunity Analysis and Industry Forecast, 2022-2032". The global automotive LiDAR system-on-chip (SoC) market were valued at $28.6 billion in 2023 and is estimated to reach $212.7 billion by 2033, exhibiting a CAGR of 22.3% from 2024 to 2033.

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Prime determinants of growth

The global automotive LiDAR system-on-chip (SoC) market is experiencing growth due to several factors such as rising demand for Advanced Driver Assistance Systems (ADAS) , technological advancements in LiDAR sensor, and emergence of autonomous vehicles. However, the high cost, and regulatory challenges hinder market growth to some extent. Moreover, integration with vehicle platforms, and innovation in solid-state LiDAR offers remunerative opportunities for the expansion of the global automotive LiDAR system-on-chip (SoC) market.

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□In □□□□□□□□ □□□□, Indie Semiconductor, Inc. introduced a groundbreaking technology called

Surya™ LiDAR system-on-a-chip (SOC) , aimed at enhancing advanced driver assistance systems (ADAS) and enabling autonomous driving features in vehicles. LiDAR, which stands for light detection and ranging, is a crucial sensing technology for ensuring maximum safety in both assisted and self-driving cars. The Surya™ LiDAR SOC integrates high-speed analog to digital converters and digital signal processing capabilities, enabling it to effectively detect long-range targets with reliability.

In □□□□□ □□□□, AMD, partnered with Sony Semiconductor Solutions (SSS) , a leading provider of image sensor technology, to develop a state-of-the-art LiDAR reference design for automotive applications. LiDAR, or light detection and ranging, is a crucial sensing technology used in autonomous vehicles to detect surrounding objects and navigate safely. The collaboration between AMD and SSS aims to create a powerful and efficient LiDAR solution that can be integrated into autonomous vehicles. The reference design features the IMX459 sensor from SSS, renowned for its high performance in image sensing applications. This sensor is paired with AMD's Zynq™ UltraScale+™ MPSoC adaptive system-on-chips (SoCs) and Artix™-7 field-programmable gate arrays (FPGAs) .

In □□□□□□□ □□□□, Aeva unveiled Aeva Atlas, the inaugural 4D LiDAR sensor tailored for automotive applications on a mass production scale. Atlas is strategically engineered to expedite the automotive industry's journey towards safer advanced driver assistance systems (ADAS) and autonomous driving. The Atlas harnesses Aeva’s cutting-edge custom silicon technology, which includes the Aeva CoreVision™—a next-generation Lidar-on-Chip module—and the Aeva X1™, a potent new System-on-Chip (SoC) LiDAR processor.

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Traditional LiDAR systems that use mechanical components like spinning mirrors or oscillating lasers to generate 3D point clouds. While these systems have been in use for a while, they are often larger, heavier, and more expensive. The shift towards solid-state LiDAR is driven by the need for smaller, more cost-effective, and reliable solutions for automotive applications. Solid-state LiDARs offer advantages in terms of size, weight, power consumption, and durability, making them better suited for integration into vehicles for advanced driver assistance systems (ADAS) and autonomous driving.

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Both passenger and commercial vehicles are increasingly incorporating LiDAR technology to enhance safety and enable autonomous driving features. The growth of ADAS systems and the push towards autonomous vehicles in both consumer and commercial sectors are driving the demand for LiDAR SoCs in these vehicle types. The increasing adoption of ADAS features and the gradual progression towards autonomous driving are propelling the demand for LiDAR SoCs across various applications. These systems enhance vehicle safety, improve driver convenience, and pave the way for more advanced autonomous driving capabilities.

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Europe is witnessing significant growth in the automotive LiDAR SoC market, propelled by advancements in ADAS and autonomous driving technologies. Countries like Germany, France, and the UK are key contributors to market growth. Stringent safety regulations, rising demand for electric and autonomous vehicles, and collaboration between automotive manufacturers and technology companies foster market expansion in Europe.

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https://www.alliedmarketresearch.com/automotive-lidar-system-on-chip-market/purchase-options

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Velodyne Lidar, Inc.
Luminar Technologies, Inc.
Aeva, Inc.
Cepton, Inc.
Innoviz Technologies, Ltd.
Ouster, Inc.
Ibeo Automotive Systems GmbH
Quanergy Systems, Inc.
RoboSense (Suteng Innovation Technology Co., Ltd.)
Hesai Technology Co., Ltd.

The report provides a detailed analysis of these key players in the global automotive LiDAR system-on-chip (SoC) . These players have adopted different strategies such as new product launches, collaborations, expansion, joint ventures, agreements, and others to increase their market share and maintain dominant shares in different regions. The report is valuable in highlighting business performance, operating segments, product portfolio, and strategic moves of market players to showcase the competitive scenario.

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Allied Market Research (AMR) is a full-service market research and business-consulting wing of Allied Analytics LLP based in Wilmington, Delaware. Allied Market Research provides global enterprises as well as medium and small businesses with unmatched quality of "Market Research Reports" and "Business Intelligence Solutions." AMR has a targeted view to provide business insights and consulting to assist its clients to make strategic business decisions and achieve sustainable growth in their respective market domain.

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