

# Automotive Chip Industry Projected to Reach \$121.3 Billion Globally by 2031 with a 9.6% CAGR: Allied Market Research

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/EINPresswire.com/ -- Allied Market Research published a report, titled, "[Automotive Chip Market](#) by Component (processor, analog IC, discrete power, sensor, memory, others), by Vehicle type (passenger car, light commercial vehicle, heavy commercial vehicle), by Application (powertrain, body electronics, safety systems, chassis, telematics & infotainment systems), by Propulsion Type (ICE vehicles, electric vehicles):

Global Opportunity Analysis and

Industry Forecast, 2021-2031." According to the report, the global automotive chip industry generated \$49.8 billion in 2021 and is anticipated to generate \$121.3 billion by 2031, witnessing a CAGR of 9.6% from 2023 to 2032.



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The automotive chip market refers to the semiconductor chips that are specifically designed for use in vehicles. These chips are made up of material, such as germanium or silicon, that exhibits electrical conductivity characteristics falling between those of conductors (like metals) and insulators. Its conductivity is close to that of metals at high temperatures and nearly non-existent at low temperatures. This property makes semiconductors and chips crucial in automotive electronic devices and technology. In vehicles, chip are used in multiple important functions such as power management, safety features, vehicle control, displays, and sensing in modern technologically advanced automobiles. More semiconductors are being used in electric and hybrid vehicles (EVs).

The demand for electric and hybrid vehicles is growing globally. The decreasing cost of components such as lithium-ion battery, sensors, and microcontrollers are the major factors that

is anticipated to develop a mass market for electrical vehicles in the near future. Furthermore, as electrical vehicles play a vital role in cutting carbon emissions and dealing with air pollution, it is getting heavily promoted by governments of all countries. Electric car sales, which include both battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs), surpassed 10 million units in 2022, marking a 55% increase compared to 2021.

According to Bloomberg, the electrical vehicle market is expected to grow by 35%, by 2040. These increasing numbers of EVs across globe encouraged the chip manufacture invest in semiconductor foundry to fulfil further demand from EVs. For instance, in April 2023, Germany based Bosch Group acquired crucial assets from California-based chip manufacturer TSI Semiconductors Thus, it is major driver for chip manufacturers to grow globally, as chip are integral part of electric vehicles. Thus, surge in demand of electric and hybrid vehicles coupled with investment from chip suppliers propel the automotive chip market.

As vehicle manufacturers continue to incorporate advanced technologies features, the demand for automotive chips is increasing rapidly. For instance, in February 2022, STMicroelectronics launched its new automotive microcontrollers (MCUs) optimized for electric vehicles and centralized electronic architectures. According to the company, it helps EVs to become more affordable, and the high-efficiency SiC-based power modules enable the greatest driving range and faster charging..

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Furthermore, automotive chips are essential for the safe operation of cars, especially in safety-essential components like airbags, anti-lock brakes, and stability control. For instance, airbag systems use automotive chips to detect a collision and release the airbags in a split second. Similar to this, anti-lock braking systems employ them to track the speed of the wheels and modify the brake pressure to prevent skidding. Automotive chips are used in stability control systems to detect a loss of control and modify the throttle or brakes to help the driver regain control of the vehicle. The demand for sophisticated safety systems and components, including automotive chip, is rising quickly as safety is still given top priority by automakers. For instance, in January 2023, NXP Introduced advanced 28nm RFCMOS radar one-chip for safety-critical ADAS applications and autonomous driving systems. The new family of automotive radar SoCs is comprised of high-performance radar transceivers integrated with multi-core radar processors which are built on NXP's S32R radar compute platform. Its application include blind-spot detection and automated emergency braking. The market is expected to continues to grow due to the various factors such as increasing government regulations, and rising consumer awareness of safety features.

In addition, the increase in demand for advanced driving assistance system (ADAS), surge in demand for electric vehicles, and rise in demand for autonomous driving accelerate the growth of the market. However, complexity of design and high manufacturing costs hamper [the growth](#)

[of the automotive chip market](#). Conversely, increased focus on cybersecurity, and increase in demand for connected car are expected to provide lucrative opportunities for the expansion of the global market of automotive chip.

For instance, in April 2021, NVIDIA Corporation launched its DRIVE Atlan platform, which is designed for autonomous vehicles and offers up to 1,000 TOPS of performance. The platform is based on NVIDIA's Grace CPU and Ampere GPU architectures and is capable of running a variety of AI-powered applications for self-driving cars.

Based on product, the microcontrollers segment held the highest market share in 2021, accounting for more than one-fourth of the [global automotive chip market revenue](#), and is expected to maintain its leadership status throughout the forecast period. Due to the increase in demand for electric and autonomous vehicles, which require more advanced sensor technologies for functions such as battery management and perception systems is another factor driving the growth of sensor chips in the automotive chip market. However, the sensor segment is projected to manifest the highest CAGR of 11.3% from 2022 to 2031. This is due to the surge in awareness of environmental issues is driving the demand for sensor chips in the automotive chip industry.

Based on application, the safety systems segment held the highest market share in 2021, accounting for more than one-fourth of the global automotive chip market revenue and is estimated to maintain its leadership status throughout the forecast period. The same segment would also display the fastest CAGR of 10.5% during the forecast period. Safety systems manufacturers are utilizing advanced semiconductor technologies such as radar, LIDAR, and image sensors, as well as high-performance microcontrollers and processors to meet the stringent safety requirements of the automotive chip industry.

Based on propulsion type, the ICE vehicles segment accounted for the largest share in 2021, contributing to around four-fifths of the global automotive chip market revenue, and is projected to maintain the lead position during the forecast period. owing to the rise in awareness of zero emission and carbon neutrality, and the implementation of these objective in the vehicle regulation around the globe. Moreover, the electric vehicles segment is projected to manifest the highest CAGR of 16.3% from 2022 to 2031. This is owing to a rise in the government's incentives and subsidies to encourage the adoption of EVs as a part of their efforts to reduce carbon

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emissions and combat climate change.

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Based on region, North America held the highest market share in terms of revenue in 2021, accounting for nearly one-third of the global automotive chip market revenue. Due to rise in the adoption of advanced driver assistance systems (ADAS) and electric vehicles. On the other hand, the Asia-Pacific region is projected to maintain its dominance during the forecast period. The same region would also portray the highest CAGR of 11.4% from 2022 to 2031, This is due to the increase in demand for electric and autonomous vehicles, as well as the developments in the automotive industry in this region.

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- NXP Semiconductors
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