

# Automotive Chip Industry : \$49.8 Billion in 2021, Projected to Reach \$121.3 Billion by 2031

WILMINGTON, NEW CASTLE, DE, UNITED STATES, November 18, 2024 /EINPresswire.com/ -- According to a new report published by Allied Market Research, titled, "[Automotive Chip Market](#)," The automotive chip market size was valued at \$49.8 billion in 2021, and is estimated to reach \$121.3 billion by 2031, growing at a CAGR of 9.6% from 2022 to 2031.

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).

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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..

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.

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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.

By product, the market is categorized into microcontrollers, logic ICs, sensors, analog ICs, and others. The microcontroller segment garnered the highest market share in 2021 and is projected to lead the market within the forecast timeframe. By application, the automotive chip market is categorized as powertrain, body electronics, safety systems, chassis, and telematics &

infotainment systems. Among these segments safety system segment captured the significant market share as compared to other segments. By propulsion type, the market is categorized as ICE vehicles, and electric vehicles. The ICE vehicles segment dominated in the propulsion type segment garnered the highest market share in 2021 and is projected to lead the market within the forecast timeframe. The North American countries will have a higher market share across the North America region due to the highest adoption of automotive chips with high vehicle production which support the growth of the North America region and expected to growth with the substantial growth rate during the forecast period.

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By product, the microcontroller segment leads the market during the forecast period.

By application, the safety system segment leads the market during the forecast period.

By propulsion type, the electric vehicles segment is expected to grow at a lucrative growth rate during the forecast period (2022-2031).

Asia-Pacific is anticipated to exhibit the highest CAGR during the forecast period.

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The key players profiled in this automotive chip market report include Analog Devices, Inc., Infineon Technologies AG, NVIDIA Corporation, NXP Semiconductors, Renesas Electronics Corporation, Robert Bosch GmbH, ROHM CO., LTD, STMICRO Electronics, Texas Instruments Incorporated, and TOSHIBA CORPORATION.

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