

Automotive Chip Market – Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Vehicle Type (Passenger Cars, Commercial Vehicles), By Type (Analog ICs, Microcontrollers & Microprocessors, Logic ICs), By Application (Chassis, Power Electronics, Safety, Body Electronics, Infotainment and Other Applications), By Region & Competition, 2020-2030F

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Abstracts

Market Overview

The Global Automotive Chip Market was valued at USD 51.32 billion in 2024 and is anticipated to reach USD 94.95 billion by 2030, growing at a CAGR of 10.8% during the forecast period. This market is expanding rapidly due to the accelerating adoption of electric vehicles (EVs) and advanced driver assistance systems (ADAS), both of which require high-performance semiconductor chips capable of real-time processing, safety features, and energy efficiency. The push toward autonomous driving and connected mobility solutions further intensifies demand for powerful chips capable of handling complex data analytics and AI applications. The industry is witnessing a move toward miniaturized and integrated solutions such as System on Chip (SoC) platforms, which support compact designs and low power consumption—especially crucial for electric and hybrid vehicles. However, the sector faces persistent challenges, particularly in supply chain management and the need for continuous technological innovation to keep pace with evolving vehicle architectures and consumer expectations.

Key Market Drivers

Increased Adoption of Electric Vehicles (EVs)

The growing shift toward electric mobility is a key factor driving demand in the automotive chip market. EVs depend heavily on semiconductor technology for essential operations, including battery management systems, motor controllers, and power conversion units. As governments implement stringent emissions regulations and offer incentives for EV adoption, automakers are increasing production of electric models, further amplifying chip demand. This surge requires specialized chips that offer higher efficiency, precision, and reliability, which in turn propels research and development in the semiconductor sector. The evolution of EV platforms is thus a central force in shaping the automotive chip landscape.

Key Market Challenges

Supply Chain Disruptions

Supply chain volatility remains a significant hurdle for the global automotive chip market. The sector continues to feel the effects of semiconductor shortages triggered during the COVID-19 pandemic, which led to production halts and delayed vehicle deliveries worldwide. Automotive manufacturing's reliance on just-in-time inventory practices, coupled with the geographic concentration of chip fabrication facilities, has exposed vulnerabilities in the supply network. Mitigating future disruptions requires strategic actions such as regional diversification of supply chains, investment in local semiconductor manufacturing, and building inventory resilience. Ensuring long-term supply stability is essential for meeting the rising demand driven by automotive digitalization.

Key Market Trends

Miniaturization of Automotive Chips

Miniaturization is a defining trend in the automotive chip industry. As vehicles become more compact and digitally advanced, there is increasing demand for smaller chips that deliver greater functionality in limited space. Miniaturized chips not only support space-saving vehicle designs but also offer enhanced energy efficiency, which is critical for the performance of EVs and hybrid models. This trend is driving innovation in semiconductor packaging and fabrication techniques, as manufacturers aim to create powerful, multifunctional chips that meet the requirements of modern vehicle systems,

including infotainment, safety, and autonomous features.

Key Market Players

NXP Semiconductor NV

Infineon Technologies AG

Renesas Electronics Corporation

STMicroelectronics NV

Toshiba Electronic Devices & Storage Corporation (Toshiba Corporation)

Texas Instrument Inc.

Robert Bosch GmbH

Micron Technology

Analog Devices Inc.

ROHM Co. Ltd.

Report Scope:

In this report, the Global Automotive Chip Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

· Automotive Chip Market, By Vehicle Type:

Passenger Cars

Commercial Vehicles

· Automotive Chip Market, By Type:

Analog ICs

Microcontrollers & Microprocessors

Logic ICs

· Automotive Chip Market, By Application:

Chassis

Power Electronics

Safety

Body Electronics

Infotainment

Other Applications

· Automotive Chip Market, By Region:

North America

United States

Canada

Mexico

Europe & CIS

Germany

France

U.K.

Spain

Italy

Asia-Pacific

China

Japan

India

South Korea

Middle East & Africa

South Africa

Saudi Arabia

UAE

Turkey

South America

Brazil

Argentina

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Automotive Chip Market.

Available Customizations:

Global Automotive Chip Market report with the given market data, TechSci Research offers customizations according to the company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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