

Global Embedded Systems in Automobiles Market Size Study & Forecast, by Vehicle, Electric Vehicle, Type, Component, Application, and Regional Forecasts 2025–2035

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Abstracts

The Global Embedded Systems in Automobiles Market was valued at approximately USD 8.8 billion in 2024 and is poised to grow at a CAGR of 17.56% over the forecast period from 2025 to 2035, ultimately reaching a valuation of USD 19.62 billion by 2035. Embedded systems are redefining automotive architecture as vehicles transform into software-centric, intelligent platforms. These systems—ranging from microcontrollers to advanced integrated circuits—are pivotal to the real-time operation of everything from powertrain control and safety systems to infotainment, advanced driver assistance, and autonomous capabilities. Their growing integration is propelled by the exponential surge in demand for electrified and connected vehicles, necessitating robust, efficient, and secure computational cores across vehicle subsystems.

The accelerated shift toward electric vehicles (EVs) has profoundly reshaped the embedded landscape. EVs require sophisticated embedded controllers to manage battery management systems (BMS), regenerative braking, electric motor control, and charging interface modules. Simultaneously, the advent of vehicle-to-everything (V2X) communication, autonomous driving algorithms, and over-the-air (OTA) firmware upgrades has further intensified the demand for embedded solutions that offer high processing power, low latency, and thermal efficiency. This innovation surge is amplified by continuous advancements in sensors, memory modules, microprocessors, and wireless transceivers, opening lucrative avenues for stakeholders across the supply chain.

Geographically, North America leads the embedded systems in automobiles market,

driven by its early adoption of connected and autonomous vehicle technologies, a mature semiconductor ecosystem, and supportive regulatory frameworks for safety and emissions compliance. Europe follows closely, supported by strong OEM presence and an aggressive push toward electric mobility under the EU Green Deal. Asia Pacific, on the other hand, is projected to be the fastest-growing region, buoyed by the automotive manufacturing dominance of China, Japan, and South Korea. Rapid urbanization, mass-market EV rollouts, and rising consumer appetite for smart driving experiences are prompting regional players to double down on embedded tech integration across both premium and economy segments.

Major market player included in this report are:

Renesas Electronics Corporation

NXP Semiconductors N.V.

Texas Instruments Incorporated

STMicroelectronics N.V.

Infineon Technologies AG

Robert Bosch GmbH

Continental AG

DENSO Corporation

Panasonic Corporation

Aptiv PLC

Harman International (a Samsung Company)

Intel Corporation

Microchip Technology Inc.

Cypress Semiconductor Corporation

Toshiba Corporation

Global Embedded Systems in Automobiles Market Report Scope:

Historical Data – 2023, 2024

Base Year for Estimation – 2024

Forecast period – 2025–2035

Report Coverage – Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope – North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope – Free report customization (equivalent up to 8 analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within the countries involved in the study. The report also provides detailed information about crucial aspects, such as driving factors and challenges, which will define the future growth of the market. Additionally, it incorporates potential opportunities in micro-markets for stakeholders to invest, along with a detailed analysis of the competitive landscape and product offerings of key players. The detailed segments and sub-segments of the market are explained below:

By Vehicle:

Passenger Cars

Commercial Vehicles

By Electric Vehicle:

Battery Electric Vehicle (BEV)

Plug-in Hybrid Electric Vehicle (PHEV)

Hybrid Electric Vehicle (HEV)

By Type:

Embedded Hardware

Embedded Software

By Component:

Sensors

Microcontroller Units (MCU)

Transceivers

Memory Devices

By Application:

Infotainment & Telematics

Body Electronics

Safety & Security

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

Rest of Europe

Asia Pacific

China

India

Japan

Australia

South Korea

Rest of Asia Pacific

Latin America

Brazil

Mexico

Middle East & Africa

UAE

Saudi Arabia

South Africa

Rest of Middle East & Africa

Key Takeaways:

Market Estimates & Forecast for 10 years from 2025 to 2035.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

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