

Automotive Electronic Control Unit (Ecu) Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 100 pages | Mordor Intelligence

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Report description:

The automotive electronic control unit (ECU) market was valued at USD 132.72 billion in 2021 and is expected to reach USD 185.43 billion in 2027 by registering a CAGR of 5.73% during the forecast period 2022-2027.

The negative impact of the COVID-19 pandemic on the automotive electronic control unit market was inevitable due to shut down of automotive manufacturing units and lockdowns. However, the market is expected to regain momentum due to the swiftly escalating year-on-year adoption rate of electric vehicles worldwide.

The market is primarily driven by technological advancements and innovation in systems. In developed nations, increasing consumer preference for driving convenience and safety is driving the market's growth. The adoption of navigation and infotainment systems is growing as they have become standard features in most cars across the world. Central electronic control unit automotive connectors are required to connect these systems to one another.

Government regulations to reduce fuel usage and increasing demand for better mileage of vehicles from the general public are other major factors leading to the high growth of the ECU market in the automotive sector.

The steady growth of alternative vehicle choices, such as hybrid and pure electric cars, in developed nations has contributed significantly to the ECU market due to the high complexities of these vehicles over conventional vehicles. Driver safety, security concerns, ease of driving, and low maintenance demanded by the customers are also some of the factors driving the growth of the ECU market.

Connecting smartphones to the vehicle and providing the driver with real-time information about the vehicle's state is a major

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trend in recent times. These advanced ECU systems, with the provision to connect with smartphones easily, can lead to an improvement in the growth of ECU systems.

The Asia-Pacific region, followed by North America and Europe, is anticipated to witness significant growth during the forecast period owing to the growing demand for electric vehicles in the region. Moreover, increased demand for technologically advanced vehicles like hybrid vehicles in developed and developing countries is expected to drive the growth of the ECU market.

Automotive Electronic Control Unit Market Trends

Rising Electric Vehicle Sales to Boost Demand for ECUs

The demand for electric vehicles is growing rapidly across the world, and this is expected to augment the demand for ECU in these vehicles. In addition, favorable government subsidies and initiatives act as catalysts for boosting the growth of the ECU market. By 2040, nearly 54% of new car sales and 33% of the global car fleet will be electric.

The European government has already started various projects for building charging infrastructure across the regions to meet the electric vehicle sales target. This transformation in the automotive sector is expected to impact the automakers, electronic component manufacturers, aftermarket, and the sector's supply chain.

Manufacturers of parts and components only pertaining to IC engine vehicles are now expanding their business into the electric vehicle domain as the demand for and sale of electric vehicles increases. In the automotive diagnostics market, components, such as ECU for engine control and transmission would be replaced by ECUs for electrical architecture and battery management systems.

Moreover, the conventional diagnostic systems are anticipated to be replaced entirely by onboard diagnostic systems that would continually monitor the health of all the electric and mechanical components of the vehicle.

Asia-Pacific Anticipated to Dominate the ECU Market

Asia-Pacific dominates the automotive electronic control unit market due to a rise in the demand for in-vehicle infotainment and communication applications in passenger vehicles, increased disposable income, and a rise in automobile production in this region.

Electrification in the Asia-Pacific region has witnessed a high penetration rate due to the presence of China and Japan, as China is the leading market for electric vehicles, and most automakers advancing in electric vehicle technology are from Japan. This development in electric vehicles can be correlated to the increased demand in the market for ECU in the region, which currently holds the highest market share in terms of both revenue and volume.

North America is also expected to witness growth in the automotive electronic control unit market due to increased demand for luxury cars, growing demand for energy-efficient vehicles, and strict government regulations to reduce carbon emissions in this region.

The European automotive ECU market is growing as infotainment & communication applications are experiencing high demand for their implementation in luxury & passenger vehicles. The growing focus on providing luxury and comfort features by leading automotive manufacturers present in European countries, including Germany, Italy, etc., is further creating opportunities for the market's growth.

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The automotive electronic control unit market is dominated by players such as Lear Corporation, Robert Bosch GmbH, Nidec Corporation, Continental AG, and Delphi Technologies, among others. Companies worldwide are adopting various innovative technologies and investing in R&D projects. Moreover, manufacturers are expanding their networks by developing dealership and distribution networks globally to gain profits and strengthen their industry presence. For instance,

□ In October 2021, Motherson extended its cooperation with Marelli Automotive Lighting (Marelli) for a new tool room in India. This will be the first of its kind tool room in India dedicated to specific lighting applications. The toolroom will be an extension of the existing joint venture company Marelli Motherson Automotive Lighting India Private Limited. The 50/50 JV was established in 2008 to address the Indian exterior lighting market, and now it has four plants in India.

□ In March 2020, Robert Bosch GmbH and Nikola Motor Company formed a partnership to develop a fuel cell truck with a capacity of 40 ton. The key element of the advanced truck system is the Bosch vehicle control unit, which provides higher computing power for advanced functions while reducing the number of independent units. The VCU supports future innovations by providing a scalable platform for the complex e/e architecture, which is essential to support the advanced features of Nikola's trucks.

□ In October 2021, ZF announced that one million units of its active rear-axle steering system AKC (Active Kinematics Control) had been produced since its launch in 2013. AKC enables agility, safety, and comfort in numerous driving situations.

Owing to the abovementioned instances and developments, players in the automotive electronic control unit market are anticipated to focus on capturing the majority of the market share and are likely to expand their geographical presence during the forecast period.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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