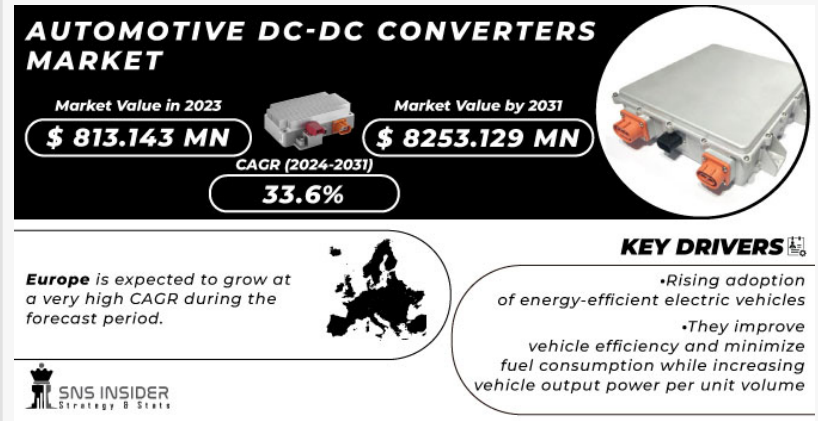
Automotive DC-DC Converters Market to $8.25 Billion Valuation by 2031 Driven By Advanced Driver-Assistance Systems

Automotive DC-DC Converters Market Size, Share, Trends, Growth Analysis and Forecast 2024 to 2031



Automotive DC-DC Converters Market Analysis

AUSTIN, TEXAS, UNITED STATES, June 19, 2024 /EINPresswire.com/ -- The Automotive DC-DC Converters Market Size was valued at US$ 813.143 million in 2023 expected to reach USD 8253.129 million by 2031, and grow at a CAGR of 33.6% over the forecast period (2024-2031).

Market Drivers

The automotive DC-DC converter market is fueled by a confluence of factors. The surge in electric vehicles (EVs), particularly battery electric (BEVs), is a primary driver. EVs require DC-DC converters to efficiently manage the power flow between the high-voltage battery and the lower voltage electronics. Stringent government regulations targeting reduced greenhouse gas (GHG) emissions are pushing the adoption of EVs, which in turn benefits the DC-DC converter market. Additionally, the growing demand for improved fuel efficiency and advanced driver-assistance systems (ADAS) in conventional vehicles is also driving the market. ADAS and other sophisticated features require a stable and reliable power supply, which DC-DC converters effectively provide. The increasing number of electronic control units (ECUs) in modern cars necessitates efficient power management at the point of load, creating another growth opportunity for DC-DC converters.

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Segment Analysis

By Product Type

-Isolated

-Non-isolated

By Product Type

Automotive DC-DC converters come in two main types: isolated and non-isolated. Isolated converters use transformers to create a physical separation between input and output, improving safety and reducing electrical noise. These are more complex but can boost, buck, or invert voltage. Non-isolated converters directly connect input and output, making them simpler and smaller, but they lack the safety benefits of isolation. Both types use control circuits to adjust voltage based on load and input changes.

By Vehicle Type

-Commercial Vehicle

-Passenger Vehicle

By Vehicle Type

The automotive DC-DC converter market is driven by two main vehicle types: battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs). BEVs are gaining popularity due to their eco-friendly nature, improved technology, and growing access to charging stations. They boast higher efficiency as they rely solely on battery power for propulsion. BEVs have fewer moving parts compared to PHEVs, resulting in lower maintenance needs. PHEVs, on the other hand, offer a safety net with their gasoline engines, eliminating range anxiety for long trips. This flexibility makes them ideal for drivers who frequently travel long distances or live in areas with limited charging infrastructure.

Economic consequences of Russia-Ukraine conflict and crisis.

The disruption of supply chains due to sanctions and logistical hurdles has limited access to raw materials essential for converter production. Palladium and nickel, mined extensively in Russia, are crucial components in many electronic devices, including DC-DC converters. Their restricted supply has inflated prices, squeezing profit margins for manufacturers. The ongoing war has intensified the global energy crisis. Soaring oil and gas prices have led to a domino effect, increasing production costs for DC-DC converters due to higher energy consumption during manufacturing processes. This translates to potential price hikes for the finished product. The conflict has dampened consumer confidence and led to inflationary pressures across the globe. This could result in decreased demand for new vehicles, especially high-end electric vehicles that typically utilize more complex and expensive DC-DC converters. There could be a silver lining.

The conflict has underscored the urgency of transitioning towards cleaner energy sources. This might lead to a renewed push for electric vehicles, potentially benefiting the DC-DC converter market in the long run as demand for these converters in EVs is significantly higher compared to conventional vehicles.

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Regional Analysis

The Asia-Pacific region is poised to dominate the automotive DC-DC converter market due to a surge in vehicle production and government initiatives promoting electric vehicles (EVs). Major countries in the region are actively electrifying their transportation sectors, attracting established automakers and even new entrants like Alibaba to invest in EV production. This growth in EVs, a key consumer of DC-DC converters, is expected to propel the market forward. Collaborations between key players in the market are fostering innovation and ensuring a steady supply of these crucial components. As more EVs and their components are manufactured locally, the market is anticipated to experience significant growth, driven not only by EVs but also by their application in hybrid electric vehicles.

Important Takeaways from the Market for Automotive DC-DC Converters

Make informed decisions about product development, marketing strategies, and resource allocation.
Identify profitable market segments and tailor your offerings to specific customer needs.
Develop a competitive edge by understanding the market landscape and anticipating future trends.
Optimize pricing strategies based on market trends and competitor analysis.
Forecast market demand to ensure you have the production capacity to meet future needs.
Reduce business risks by staying informed about potential challenges and opportunities.

Major Key Players of Automotive DC-DC Converters Market

-Hyundai Mobis

-Robert Bosch GmbH

-BorgWarner Inc.

-Denso Corporation

-TDK-Lambda Corporation

-Delta Electronics

-Continental AG

-Toyota Industries Corporation

-Valeo

-Vicor Corporation

Recent Development

May 2023: onsemi, a semiconductor manufacturer, made an exciting announcement about its new strategic partnership with Kempower. This collaboration aims to provide the EliteSiC D3 diode and M3S MOSFETs for scalable electric vehicle (EV) chargers. These cutting-edge devices will be incorporated into the Active AC-DC front-end as well as the primary and secondary DC-DC converters, enhancing the efficiency and performance of EV charging systems.
May 2023: Infineon Technologies AG and Hon Hai Technology Group revealed their joint efforts through a memorandum of understanding (MoU). The focus of this collaboration is on silicon carbide (SiC) development, leveraging Infineon's expertise in automotive SiC innovations and Foxconn's profound knowledge of automotive systems. Working together, the two companies will concentrate on implementing SiC technology in various high-power automotive applications, including traction inverters, onboard chargers, and DC-DC converters, ushering in a new era of innovation and efficiency in the automotive industry.

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