

## **North America Electric Vehicle Power Inverter Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)**

Market Report | 2023-01-23 | 90 pages | Mordor Intelligence

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### **Report description:**

Currently, the North American electric vehicle power inverter market is valued at USD 428 million and is expected to reach USD 1519 million over the next five years, registering a CAGR of 23.3% during the forecast period.

#### Key Highlights

A power inverter is one of the key components in electric vehicles, which ideally converts battery DC power into AC power for an electric motor. Considering the growing concern among the automakers to optimize energy consumption in vehicles, the inverter manufacturers have improved inverter capabilities to handle energy, and vice versa, from both the sources (i.e., battery and motor).

With growing stringent emission standards worldwide, automakers are gradually shifting their production from conventional engine vehicles to hybrid and electric cars. In addition, governments have initiated incentives, such as a cut down in vehicle tax, bonus payments, and premiums, for buyers of electric vehicles, in respective countries to support the electric vehicle sales growth.

Vehicle inverter manufacturers are consistently working to improve their products in terms of efficiency and size. Combining an inverter with a motor or converter has significantly gained attention among automakers. For instance, in March 2020, VisIC Technologies Ltd., has developed a design of an 800V power-bus motor inverter using GaN technology that can be utilized in an EV Motor Drive. University of Texas at Austin and VisIC Technologies have jointly worked on the 100kW inverter reference design.

North America Electric Vehicle Power Inverter Market Trends

Battery Electric Vehicles Witnessing High Growth

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Currently, Electric vehicles have captured nearly a 2% share of the total United States car fleet. With the active participation of industry players and government organizations in EV industry development, the growth of electric vehicle adoption is expected to improve in the future. New electric vehicle models are being launched in the market.

The 2021 Polestar 2 is an electric fastback, which can generate 408 horsepower, has a 78 kWh battery, and can deliver an estimated range of 292 miles. Volvo Car Group and Zhejiang Geely Holding of China jointly own Polestar.

In addition to the above trends, an increase in the number of charging stations in North America will likely drive the market during the forecast period. For instance, in 2019, Ford launched North America's largest electric vehicle public charging network; Ford Connected Charge Station will include more than 12,000 charging stations with nearly 35,000 plugs.

Similarly, EV Connect, a cloud-based software company for electric vehicle charging stations, has joined hands with DTE Energy to fund the EV charging infrastructure in Michigan. Under this partnership, the target is to add around 1,000 charge ports in Michigan.

## United States Expected to Lead the Market

The demand for electric vehicle power inverters has been growing significantly over the past few years due to the increase in electric adoption and demand for electric vehicles in the United States. For instance:

Despite the pandemic, the demand for electric cars has grown positively. The registrations in the passenger cars segment increased from 1.45 million units in 2019 to 1.78 million units in 2020, a yearly growth rate of 22.56%. This will further increase in 2021. Growing demand for passenger vehicles, such as electric cars, is expected to drive the demand for electric vehicle power inverters.

The partnership and joint ventures between the technology companies will enhance the quality of the components, which is expected to create a demand for the product in the market. For instance,

In January 2019, NXP Semiconductors partnered with VEPCO Technologies to produce a SIL-D-capable, high-voltage power control reference platform and inverter prototype. Such factors are expected to show positive results for the electric vehicle power inverter market in the United States. Various automobile manufacturers are working on concepts and prototypes that will be available soon in the market for sale in the near future, along with preorders. For instances,

Rivian, an American automobile manufacturer, is working on a concept electric SUV, R1S. The R1S will be competing with the Tesla Model X, and the car is expected to be launched in 2022, as claimed by the company, with a price tag of USD 72,500. The production and sales of the R1S are expected to boost the demand and sales of the electric vehicle power inverter in the coming year. Daimler has finally opened the preorders on its eCascadia and eM2 electric trucks in the United States. The company claims to produce the trucks by 2022.

All the above-mentioned factors are creating opportunities for the electric power inverter, which is expected to boost the electric vehicle power inverter market in the United States.

## North America Electric Vehicle Power Inverter Market Competitor Analysis

The North American electric vehicle power inverter market is dominated by major players like Continental AG, Robert Bosch, Denso Corp., Toyota Industries Corporation, Hitachi Automotive Systems Ltd, Mitsubishi Electric Corporation, etc. The companies are making partnerships to develop more advanced power in inverters, a better range, for instance.

In Oct 2021, Robert Bosch debuted a new CV-specific electric motor and inverter. This 230 e-motor can be paired with Bosch's advanced Sic inverter to cut down on energy losses and increase the driving range of commercial vehicles.

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In April 2020, Karma Automotive announced that it is in the final stage of developing two new Silicon Carbide (SiC) Inverters for enhancing electric mobility charging. Karma is developing this inverter in partnership with the Power Electronic System Laboratory at the University of Arkansas (PESLA)

Additional Benefits:

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

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