Global Electric Vehicle(EV) Inverter Market Projected to Grow to $13 Billion by 2030, at 14% CAGR in 2024-2030

Growth in EV sales mainly driven by stringent emission regulations and EV subsidies, will drive EV Inverter market to substantial growth.

DALLAS, TEXAS, US, June 13, 2024 /EINPresswire.com/ -- Key contents of the Global EV Inverter Market report include

- Market size & Forecast segmented by Geography, EV Type, Power Output and Vehicle Type
- Technology trends, Impact of regulations, and Constraints
- Average B2B Price by Geography and Pricing forecast
- Competitive landscape and market share of leading vendors

> “Rising EV demand for 800V vehicles, will boost the EV inverter market. Trends include unit integration for assembly ease, modular design benefits, plus cost-effective multi-motor inverter systems.”
>
> *Karthik Heroor*

According to the latest market study by Mobility Foresights, the "Global EV Inverter 2024-2030" is expected to grow from $2.98 Billion in 2023 to $12.98 Billion by 2030, at a compound annual growth rate (CAGR) of 14%.

Market Overview:
The automotive inverter market is expected to experience significant growth in the coming years, driven by the increasing demand for EVs, especially BEV, and also due to the Stringent emission regulations and EV subsidies which are accelerating the shift towards EV across the globe.

KEY FINDINGS
China and Europe will be the markets with the largest growth from 2024-2034 followed by the USA. The market growth will occur due to the growth of BEV and HEV in the Global EV Inverter Market.

Electric vehicles in China are gaining traction and competing with internal combustion engine (ICE) vehicles without subsidies. This trend is expected to persist as the lower running costs of

battery electric vehicles (BEVs) make them increasingly attractive to consumers.

Stringent emission regulations and EV subsidies are accelerating the shift towards EVs in Europe and the goal of completely stopping sales of any vehicle with Combustion engine by 2035 will present a significant opportunity for inverter manufacturers targeting the European market.

Manufacturers are moving towards integrating various power electronics components (inverters, DC-DC converters, onboard chargers) into a single unit. This simplifies design, reduces weight and complexity, and potentially improves efficiency.

Suppliers are shifting their abilities to the development of 400V & 800V Architecture. Delphi and ZF have started procuring contracts for the manufacturing of 800 V systems. This transition has a profound impact on EV inverters, driving advancements in technology, design, and functionality.

Silicon carbide (SiC) inverters offer higher efficiency, smaller size, and lighter weight compared to traditional silicon-based inverters. As costs decrease and production scales up, SiC will likely become the standard technology for EV inverters in the coming years.

In recent years, the technological progress in inverters has come from two main areas - Advanced topologies and Advanced semiconductor materials. Advanced wide-bandgap semiconductor materials also fall into two categories - one is Silicon Carbide (SiC) and another one is Gallium Nitride (GaN). Out of these two semiconductors, Gallium Nitride material is widely used for making solid-state switches either in the form of IGBTs or FETs.

Combining the inverter and DC/DC converter into one unit delivers great efficiency and thermal management as well as reducing cost, weight, and packaging requirements. The focus is on maximum power density in a lighter, smaller, cost-effective package hence driving the market penetration

While the Chinese inverter market for BEVs will include all ranges from <50 kW to >200 kW, Europe and the USA will largely remain within 100 kW + for EV inverters as the type of vehicle sales differ largely depending on the region, hence the scope of various size and specification will drive the entire EV inverter market

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EV Inverters MARKET TRENDS

Rise In Development of 400V & 800V Architecture:- The electric vehicle (EV) industry is witnessing a significant shift towards higher voltage architectures, with 400V and 800V systems gaining traction. This transition has a profound impact on EV inverters, driving advancements in

technology, design, and functionality.

Rise In Average Battery Capacity:- The average battery pack per vehicle will see an increase from 2023 – 2034. This will require intense cooling for improved performance and eliminating fires which will require superior battery management. Balancing high performance with the compact design of EV Inverter is pushing for innovative packaging and integrated functionalities.

SiC-Based Inverters Will Increase In Popularity:- Silicon carbide (SiC) inverters offer higher efficiency, smaller size, and lighter weight compared to traditional silicon-based inverters. As costs decrease and production scales up, SiC will likely become the standard technology for EV inverters in the coming years.

Increased Focus On Integrated Power Electronics:- Manufacturers are moving towards integrating various power electronics components (inverters, DC-DC converters, onboard chargers) into a single unit. This simplifies design, reduces weight and complexity, and potentially improves efficiency

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Future Outlook:
Despite the high cost, the automotive traction inverter market is poised for growth, mainly due to the high demand for BEVs. China and Europe will be the markets with the largest growth from 2024-2034 followed by the USA. The market growth will occur due to the growth of BEV and HEV in the Global EV Inverter Market.

SiC-based inverters will increase in popularity, Silicon carbide (SiC) inverters offer higher efficiency, smaller size, and lighter weight compared to traditional silicon-based inverters. As costs decrease and production scales up, SiC will likely become the standard technology for EV inverters in the coming years.

With increased focus on integrated power electronics, Manufacturers are moving towards integrating various power electronics components (inverters, DC-DC converters, onboard chargers) into a single unit. This simplifies design, reduces weight and complexity, and potentially improves efficiency.

Key Criteria For EV Inverter Vendor Selection By OEMs:

Share And Level Of Vehicle Electrification Across Portfolio
A higher level of 48V and above vehicle electrification across an OEM`s portfolio provides the OEM and supplier, “scale”, which is just not there in the EV market right now. OEMs choose

suppliers with sufficient production capacity who can meet that volume at a lower price

OEM-Supplier Origin
Those OEMs, who cannot manufacture inverters in-house, prefer to source from suppliers of the same origin

Sourcing Complete Bundled Solution
EVs also require other power electronics components like On board chargers, and converters. Sourcing a complete bundled solution from one supplier results in packaging and logistic optimization

Price And Proximity To The Manufacturing Plant
The Chinese market is extremely cost-sensitive and due to the comparatively low sticker price of vehicles, the market demands components to be locally assembled to avail higher incentives. Delphi and Continental have already expanded their production locally

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Reasons to Purchase:
Strategic Decision Support: This report offers valuable data on market forecasts, sector trends, and micro and macro details to support strategic decisions.
Competitive Strategy Development: Insights into market share and positioning of key market players aid in developing competitive strategies and positioning one's own business effectively.

Risk Evaluation: Understanding market drivers, restraints, and dynamics helps in assessing potential risks and developing risk mitigation strategies.
Market Entry and Expansion: Detailed analysis of segmented market growth, geographic trends, and regulatory frameworks assists businesses in planning market entry and expansion strategies.

Optimal Investment Planning: The report guides stakeholders in identifying regions and sectors ripe for investment, helping optimize investment strategies.

Regulatory Impact Analysis: Provides a detailed understanding of the regulatory landscape and upcoming changes, which are crucial for compliance and strategic planning.

The report provides insight into current and future potential applications, which help the stakeholder to collaborate with certain players across industries

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