EV Battery Market by Battery Capacity (<50, 50-110, 111-200, 201-300 and >300), Method (Wire, Laser), Propulsion (BEV, PHEV, HEV, FCEV), Battery Type, Material Type, Li-ion Battery Component, Battery Form, Vehicle Type & Region - Global Forecast to 2027

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Report description:

The global EV battery market is projected to grow at a CAGR of 19.0% from USD 56.4 billion in 2022 to USD 134.6 billion by 2027. The EV battery market will be driven by elements like developing battery technology, supportive governmental policies and regulations, and the introduction of new plug-in EV models.
Manufacturers of EV batteries have developed novel approaches to battery design and chemistry. The reduction of the volume that the battery takes up is another key area of attention for R&D in EV batteries. For instance, Samsung SDI considerably changed the anode-cathode battery separator in order to make the battery smaller. A Chinese EV battery manufacturer named CATL developed "blade-thin" battery cells with a centimeter-thick thickness. A battery system is made up of stacked cells system. Apart from government initiatives and incentives, the EV battery ecosystem is witnessing various innovations when it comes to the use of advanced metals in the battery. Apart from that, there is a shift in the manner in which batteries are built. For instance, with the introduction of Cell to Pack (CTP) technology, the need for putting cells in modules has been eliminated, thereby making the battery lighter in weight. Similarly, investments by major battery players and few automotive OEMs in capacity expansions as well as green field investments are also poised to play a major role in the growth of the EV battery market.
With improving battery chemistries, the new age batteries are estimated to have better performance characteristics and low cost due to increasing mining of various metals that are used in the anode and cathode of the battery cells. Low cost coupled with better performance is estimated to cause a shift in paradigm of the battery ecosystem and create more demand for EV batteries. With rising demand for EVs, major EV manufacturers are adopting backward integration strategy when it comes to battery manufacturing which will again be a major boost for EV batteries.

The market for electric vehicles has recently undergone changes that have resulted in the introduction of batteries with better characteristics. The limited range of electric vehicles, lengthy charging times, high cost, lifespan, and accessibility of charging stations all discourage users from choosing electric vehicles over internal combustion engines (ICEs), even though these batteries are expected to improve the performance and range of electric vehicles. In order to overcome these obstacles, EV battery makers are concentrating on creating sophisticated batteries with cutting-edge fast- and rapid-charging technologies..

?The medium & heavy truck segment would grow at the quickest rate in near future.?

Heavy trucks are preferred for long-distance transportation, medium trucks are typically utilised for distribution and trash services. A number of OEMs have been inspired to introduce electric trucks in 2021 as a result of the usage of electricity as a fuel in medium and heavy vehicles. This will eventually drive up demand for EV batteries. For instance, Navistar intends to release international medium-duty electric trucks in 2021 through its newly created business segment, NEXT e Mobility Solutions. Production of Tesla's electric heavy-duty vehicle, the Tesla Semi, with a 500-mile range, is anticipated to start in 2021 as well. All of these prospective projects will increase worldwide EV battery manufacturing, driving the EV battery market.

During the forecast period, North America is expected to dominate the market for medium and heavy trucks. The market in this area is driven by OEMs like Peterbilt, Freightliner, Kenworth, and Navistar, who concentrate on making electric medium-duty trucks. Due to the growing use of these vehicles for distribution and trash services, the market for EV batteries is anticipated to grow in demand. Frito-Lay received their first Peterbilt EV medium truck model in January 2020.

?Electrolyte is anticipated to be the largest li-ion battery component segment in the forecast period.?

An electrolyte is a liquid that conducts electricity and is found in lithium-ion batteries. It serves as a conduit for ions to readily travel between the positive and negative electrodes inside the battery. In lithium-ion batteries, the electrolyte aids in achieving excellent performance and safety. There are numerous conceivable and accessible composition types, but not all of them are compatible with other battery components.

Lithium-ion batteries typically use non-aqueous solutions as their electrolytes. Salts of lithium hexafluorophosphate (LiPF6) and organic carbonate solvents, such as ethylene carbonate, are employed as electrolytes in this type of battery (EC). The range of the operating temperature of the electrolyte is -20 OC to +50 OC.

Electrolytes risk lasting harm if they are exposed to surroundings with temperatures outside of this range.

In-depth interviews were conducted with CEOs, marketing directors, other innovation and technology directors, and executives from various key organizations operating in this market.

- By Company Type: Tier I - 52%, Tier II - 9%, and OEMs - 39%
- By Designation: CXOs - 24%, Director Level - 45%, and Others - 31%
- By Region: North America - 29%, Europe - 38%, and Asia Pacific - 33%

The EV battery market comprises major companies such as players CATL (China), Panasonic (Japan), LG Chem (South Korea), BYD (China), and Samsung SDI (South Korea).

Research Coverage:

The study covers the EV battery market size and future growth potential across different segments such as by battery type, battery capacity, battery form, method, material type, propulsion, vehicle type, li-ion battery component, and region. The study also includes an in-depth competitive analysis of the key players in the market, along with their company profiles, key observations related to product and business offerings, recent developments, and key market strategies.

Key Benefits of Buying the Report:

- The report will help market leaders/new entrants in this market with information on the closest approximations of revenue numbers for the overall EV battery market and its subsegments.
- This report will help stakeholders understand the competitive landscape and gain more insights to better position their businesses and plan suitable go-to-market strategies.
- The report also helps stakeholders understand the pulse of the market and provides them information on key market drivers, restraints, challenges, and opportunities.

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