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Electric Vehicle (EV) Battery Housing Market - A Global and Regional Analysis: Focus on Battery Housing Vehicle Type, Cell Format, Battery Chemistry, Material, Component, and Country Analysis - Analysis and Forecast, 2023-2032

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Abstracts

Electric Vehicle Battery Housing Market Overview

The global electric vehicle battery housing market is projected to reach $13.54 billion by 2032 from $4.01 billion in 2022, growing at a CAGR of 13.14% during the forecast period 2023-2032. The growth in the electric vehicle battery housing market is expected to be driven by growing demand for electric vehicles, charging infrastructure, the need for lightweighting materials, and better range, among others.

Introduction of Electric Vehicle Battery Housing

Electric vehicle battery housing is a structural component that encloses and protects the battery pack in an electric vehicle. It is also responsible for dissipating heat from the battery pack and preventing the spread of fire in the event of a battery failure. The battery housing is a critical component of an electric vehicle because it protects the battery pack from damage and helps to ensure the safety of the vehicle occupants. It is also important for the thermal management of the battery pack, which helps to improve the performance and lifespan of the battery. The battery housing is made of a variety of materials, including aluminum, steel, and plastic. The choice of material depends on the specific design requirements of the vehicle and the battery pack. It is typically designed to be lightweight, strong, and corrosion resistant. It is also important for the battery housing to be able to dissipate heat effectively. Therefore, it is an important part of the overall safety of an electric vehicle. It helps to prevent the spread of fire in the event of a

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battery failure and helps to protect the battery pack from damage.

Market Introduction

The electric vehicle battery housing market is a rapidly growing market due to the increasing demand for electric vehicles. The battery housing is a critical component of an electric vehicle, as it protects the battery pack from damage and helps to dissipate heat. The major players in the electric vehicle battery housing market are ThyssenKrupp AG, SGL Carbon, Nemak, Novelis Inc., Constellium SE, and Covestro AG, among others These companies are focusing on developing innovative battery housing solutions to meet the increasing demand for electric vehicles.

Industrial Impact

The industrial impact of the electric vehicle battery housing market is significant. The market is growing rapidly due to the increasing demand for electric vehicles. This is driving growth in the automotive, electronics, and metal industries. The automotive industry is the largest consumer of electric vehicle battery housings. The demand for electric vehicles is increasing due to the rising concerns about environmental pollution and the increasing availability of government incentives for electric vehicles. This is expected to drive growth in the automotive industry, which is, in turn, driving growth in the electric vehicle battery housing market. The electronics industry is also a major consumer of electric vehicle battery housings. The advances in battery technology, such as the development of lithium-ion batteries, are making electric vehicles more affordable and practical. This is driving growth in the electronics industry, which is, in turn, driving growth in the electric vehicle battery housing market. The metal industry is also benefiting from the growth of the electric vehicle battery housing market. The battery housings are made of a variety of metals, including aluminum, steel, and plastic. The demand for these metals is increasing due to the growth of the electric vehicle battery housing market.

The industrial impact of the electric vehicle battery housing market is significant. The market is growing rapidly and is driving growth in the automotive, electronics, and metal industries. This is expected to continue in the coming years as the demand for electric vehicles continues to increase.

Market Segmentation:

Segmentation 1: by Cell Format

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Pouch Cell

Cylindrical Cell

Prismatic Cell

Prismatic Cells to Dominate the Electric Vehicle Battery Housing Market (by Cell Format)

Based on cell format, prismatic cells dominate the electric vehicle battery housing market because they have a higher energy density, flexible design, better thermal management, and are becoming more cost-effective. They are also less likely to swell, easier to stack and connect, and less likely to be damaged in a crash than cylindrical cells. These advantages make prismatic cells the preferred cell type for electric vehicles.

Segmentation 2: by Vehicle Type

2-Wheeler

3-Wheeler

Off Road Vehicles

Commercial Vehicles

Passenger Vehicles

Passenger Vehicles Segment to Grow at a Significant Growth Rate in the Electric Vehicle Battery Housing Market (by Vehicle Type)

Based on vehicle type, the passenger vehicles segment dominates the electric vehicle battery housing market because passenger vehicles are the most popular type of electric vehicle. This is due to a number of factors, including the fact that passenger vehicles are more affordable than other types of electric vehicles, and they offer a more comfortable and convenient driving experience. The passenger vehicles segment is expected to grow at a faster rate than other segments in the electric vehicle battery

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housing market due to the increasing demand for electric vehicles in the passenger car market. In 2022, passenger vehicles accounted for over 70% of all electric vehicles sold worldwide. The average price of an electric passenger car is significantly lower than the average price of an electric commercial vehicle or bus. Electric passenger cars are typically quieter and smoother than other types of electric vehicles, and they offer a more spacious and comfortable interior. Additionally, the International Energy Agency (IEA) predicts that the global market for electric passenger vehicles will grow from 6.6 million vehicles in 2022 to 22.3 million vehicles in 2030. As a result, the passenger vehicles segment is expected to continue dominating the electric vehicle battery housing market in the coming years.

Segmentation 3: by Material Type

Steel

Aluminium

GFRP

CFRP

Aluminum Segment to Grow Considerably in the Electric Vehicle Battery Housing Market (by Material Type)

Based on material type, the aluminum segment is expected to dominate the electric vehicle battery housing market because aluminum is a lightweight, strong, and corrosion-resistant material that is well-suited for use in battery housings. Aluminum is also relatively inexpensive, which makes it a cost-effective option for battery housing manufacturers. In addition, aluminum is recyclable, which makes it a sustainable choice for battery housings. The recycling of aluminum requires less energy than the production of new aluminum, which helps to reduce the environmental impact of electric vehicles. As the demand for electric vehicles continues to grow, the demand for aluminum battery housings is expected to grow as well. This is because aluminum is a well-suited material for battery housings, and it is a cost-effective and sustainable option.

Segmentation 4: by Battery Chemistry Type

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Lithium-Ion

Lead Acid

Others

Lithium-ion Segment to Dominate the Electric Vehicle Battery Housing Market (by Battery Chemistry Type)

The lithium-ion battery segment is expected to dominate the electric vehicle battery housing market because lithium-ion batteries are the most widely used type of battery in electric vehicles. This is due to a number of factors, including their high energy density, long lifespan, and relatively low cost. In addition, lithium-ion batteries are becoming increasingly popular in electric vehicles as they become more efficient and affordable. This is expected to drive the demand for lithium-ion battery housings, as these batteries need to be protected from the elements and from damage.

Segmentation 5: by Component Type

Top Cover

Bottom Cover

Others

Bottom Cover Segment to Dominate the Electric Vehicle Battery Housing Market (by Component Type)

Based on component type, the bottom cover segment is expected to dominate the electric vehicle battery housing market because it is the most structurally important part of battery housing. The bottom cover provides structural support for the battery pack and protects it from other harsh elements. It also helps to dissipate heat from the battery pack and prevents it from overheating. Moreover, the bottom cover is typically made from a strong and durable material, such as aluminum or steel. This makes it more resistant to damage than other parts of the battery housing.

Segmentation 6: by Region

North America: U.S., Canada, and Mexico

Europe: Germany, France, and Rest-of-Europe

U.K.

China

Asia-Pacific and Japan: Japan, South Korea, and Rest-of-Asia-Pacific and Japan

Rest-of-the-World

Based on region, Asia-Pacific and Japan region is expected to dominate the electric vehicle battery housing market due to a number of factors, including:

There is a growing demand for electric vehicles in the region. The Asia-Pacific region is one of the leading regions in terms of electric vehicle adoption, and this trend is expected to continue in the coming years.

There is a presence of major battery manufacturers in the region. Asia-Pacific is home to some of the world's leading battery manufacturers, such as BYD, CATL, and Panasonic. These companies are investing heavily in the development of new battery technologies, thereby driving the demand for battery housings.

There is availability of skilled labor in the region. Asia-Pacific has a large pool of skilled labor, which is essential for the manufacturing of complex battery housings.

The favorable government policies in the region. Many governments in the Asia-Pacific region are providing incentives for the adoption of electric vehicles, which is also driving the demand for battery housing.

Recent Developments in the Electric Vehicle Battery Housing Market

In March 2022, in order to accommodate new business from Ford Motor

Company for the provision of novel battery enclosures, Magna stated that it is extending its operations into Chatham as an expansion of its present facilities in St. Thomas.

In June 2022, Renault Group, a prominent participant in the automotive industry, and Minth Group announced the signing of a memorandum of understanding to establish a joint venture in France to manufacture battery casings. In 2023, the joint venture will open two additional manufacturing lines in Ruitz, with a capacity of 300,000 battery casings per year by 2025, for electric vehicles such as the upcoming R5.

In February 2022, Nemak, S.A.B. de C.V. said that it had been granted a contract worth $350 million annually to manufacture battery housings for worldwide clients' fully electric automobiles. Nemak intends to invest roughly $200 million in three new manufacturing locations across Europe and North America to support joining and assembly requirements for these products.

Demand – Drivers, Limitations, and Opportunities

Market Demand Drivers:

The market for electric vehicle battery housings is being driven by the increasing demand for electric vehicles, rising environmental concerns, government incentives, and advances in EV battery technology. As the global electric vehicle market continues to grow, so will the demand for battery housings. These products are essential for the safe and efficient operation of electric vehicles, and they are also becoming more affordable as battery technology improves. There is a growing awareness of the need to reduce pollution, and electric vehicles are seen as a way to do this. Battery housings are essential for the safe and efficient operation of electric vehicles, which is anticipated to drive the demand for these products. Electric vehicles produce zero emissions, which is a major advantage over traditional gasoline-powered vehicles. This is expected to drive the demand for electric vehicles and in turn, the demand for battery housings.

Many governments are providing incentives for the adoption of electric vehicles, and this is also driving the demand for battery housing. These incentives make electric vehicles more affordable for consumers, and this is increasing the demand for these vehicles. For example, the U.S. government offers a tax credit of up to $7,500 for the purchase of an electric vehicle. This tax credit is a major incentive for consumers, and it

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is expected to drive the demand for electric vehicles.

Market Challenges:

The market for electric vehicle battery housings is facing a number of challenges, including the high cost of materials, lack of standardization, demand volatility, and competition from other materials. These challenges are making it difficult for manufacturers to produce battery housings that are affordable, compatible, and in demand. The materials used to manufacture battery housings, such as aluminum and steel, are relatively expensive. This is a major challenge for the market, as it can make battery housings a major cost component for electric vehicles.

Also, there is currently no standard for electric vehicle battery housings. This can make it difficult for manufacturers to design and produce battery housings that are compatible with different electric vehicles.

Market Opportunities:

The market for electric vehicle battery housings is expected to grow significantly in the coming years, driven by the increasing demand for electric vehicles and the development of new battery technologies. Some of the key market opportunities and trends include:

The rise of lightweight materials: Lightweight materials, such as composites and plastics, are becoming increasingly popular for manufacturing battery housings. These materials can help to reduce the weight of electric vehicles, which can improve their range and performance.

The development of integrated cooling systems: Integrated cooling systems are becoming increasingly common in battery housings. These systems help to keep the battery at a safe temperature, which can improve its performance and lifespan.

The growth of battery swapping systems: Battery swapping systems are gaining popularity as a way to reduce the time it takes to recharge electric vehicles. Battery housings for battery swapping systems need to be designed to be quick and easy to swap, as well as to protect the battery from damage.

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How can this report add value to an organization?

Product/Innovation Strategy: Globally, the leading electric vehicle OEMs are continuously working to manufacture and sell vehicles with higher range.The growing need for affordable and high-performing electric vehicle battery housings is one of the major factors for the growth of the electric vehicle battery housing market. The market is more on the consolidated side at present, where electric vehicle battery housing manufacturers have been successful to a certain extent in strengthening their market position in the global market. However, with the rise of electric vehicles with better ranges, the existing established players are expected to face stiff competition from emerging players. Moreover, partnerships and collaborations are expected to play a crucial role in strengthening market position over the coming years, with the companies focusing on bolstering their technological capabilities and gaining a dominant market share in the electric vehicle battery housing industry.

Growth/Marketing Strategy: The electric vehicle battery housing market has been growing at a rapid pace. The market offers enormous opportunities for existing and emerging market players. Some of the strategies covered in this segment are mergers and acquisitions, product launches, partnerships and collaborations, business expansions, and investments. The strategies preferred by companies to maintain and strengthen their market position primarily include partnerships, agreements, and collaborations.

Competitive Strategy: The key players in the electric vehicle battery housing market analyzed and profiled in the study include steel suppliers, aluminium suppliers, plastics suppliers, electric vehicle battery housings manufacturers that develop, maintain, and market electric vehicle battery housings. Moreover, a detailed competitive benchmarking of the players operating in the electric vehicle battery housing market has been done to help the reader understand the ways in which players stack against each other, presenting a clear market landscape. Additionally, comprehensive competitive strategies such as partnerships, agreements, and collaborations are expected to aid the reader in understanding the untapped revenue pockets in the market.

Key Market Players and Competition Synopsis

The companies that are profiled have been selected based on inputs gathered from primary experts and analyzing company coverage, product portfolio, and market penetration.

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Key Companies Profiled:

SGL Carbon

Novelis Inc.

Nemak, S.A.B. de C.V.

Constellium SE

Gestamp Automocion, S.A.

UACJ Corporation

GF Linamar LLC

Hanwha Solutions Advanced Materials

Minth Group

ThyssenKrupp AG

TRB Lightweight

Hitachi Metals, Ltd.

Norsk Hydro ASA

Magna International Inc.

Kautex Textron GmbH & Co. KG

Teijin Limited

LANXESS

Evonik Industries AG

Saudi Basic Industries Corporation (SABIC)

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