

Automotive Lead Acid Battery Market Size, Share & Forecast Analysis 2023-2030: A US\$14.8 Bn Market by 2030

Automotive Lead Acid Battery Market Size 2024 | Share by Top Companies, Trends, In-Depth Analysis and Growth Forecast 2030

WASHINGTON, D.C, DISTRICT OF COLUMBIA, UNITED STATES, February 8, 2024 /EINPresswire.com/ -- An Automotive Lead Acid Battery is a type of rechargeable battery that uses lead and lead oxide as the electrodes and sulfuric acid as the electrolyte. It is one of the oldest and most widely used types of batteries in the automotive industry, especially for starting,



lighting, and ignition (SLI) applications. Automotive lead acid batteries are also used for auxiliary power supply, electric vehicles, hybrid vehicles, and micro-hybrid vehicles.

The Global <u>Automotive Lead Acid Battery Market</u> was valued at US\$12.5 Billion in 2022 and is expected to grow at a compound annual growth rate (CAGR) of 2.5% from 2023 to 2030, reaching

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Vantage Market Research Report for Automotive Lead Acid Battery Market- A Closer Look at the Future of Automotive Lead Acid Battery" US\$14.8 Billion by 2030, according to a report by Vantage Market Research. The major driving factors for the growth of the market are the increasing demand for automobiles, especially in emerging economies, the rising adoption of micro-hybrid vehicles, the low cost and high reliability of lead acid batteries, and the development of advanced lead acid batteries with improved performance and durability.

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Market Dynamics

Lead is the main raw material for the production of lead acid batteries, and its price and availability affect the cost and profitability of the market. The demand for lead is expected to increase in the coming years, driven by the growth of the automotive industry and the lead acid battery market. However, the supply of lead may face challenges due to the environmental and social issues associated with lead mining and smelting, such as pollution, health hazards, and human rights violations. Therefore, the market players need to ensure a stable and sustainable supply of lead, as well as adopt measures to reduce the environmental impact of lead production and recycling.

Lead acid batteries are subject to various environmental regulations and standards, as they contain hazardous substances that can cause environmental and health problems if not handled properly. For example, the European Union has implemented the Battery Directive, which sets the limits for the content of lead and other heavy metals in batteries, and requires the collection and recycling of waste batteries. Similarly, the United States has the Resource Conservation and Recovery Act (RCRA), which regulates the generation, transportation, treatment, storage, and disposal of hazardous waste, including lead acid batteries. These regulations aim to reduce the environmental impact of lead acid batteries and promote their safe and efficient use and recycling. The market players need to comply with these regulations and adopt best practices to ensure the environmental and social responsibility of their operations.

The Automotive Lead Acid Battery Market is witnessing various technological innovations and developments, such as the introduction of advanced lead acid batteries, the integration of battery management systems, the adoption of smart charging technologies, and the use of renewable energy sources. These innovations aim to improve the performance, efficiency, durability, and sustainability of lead acid batteries, and to meet the changing needs and expectations of the customers. For example, advanced lead acid batteries, such as absorbed glass mat (AGM) and enhanced flooded batteries (EFB), offer higher power density, longer cycle life, better cold cranking ability, and lower water loss than conventional lead acid batteries. These batteries are suitable for modern vehicles that have higher electrical loads and start-stop systems. The market players need to invest in research and development and adopt these innovations to gain a competitive edge and increase their market share.

Top Players in The Global Automotive Lead Acid Battery Market Report Scope:

- Johnson Controls (U.S.)
- Exide Technologies (U.S.)
- East Penn Manufacturing (U.S.)
- GS Yuasa Corporation (Japan)
- EnerSys (U.S.)
- Clarios (U.S.)
- C&D Technologies (U.S.)
- Crown Battery Manufacturing (U.S.)

- Amara Raja Batteries (India)
- Leoch International Technology (China)
- Fengfan Co. Ltd. (China)
- Camel Group Co. Ltd. (China)
- Mutlu Battery (Turkey)
- HOPPECKE Batterien (Germany)
- FIAMM Energy Technology (Italy)

To Know an Additional List of Key Players, Request Here to Download a Free Report PDF Brochure: <u>https://www.vantagemarketresearch.com/automotive-lead-acid-battery-market-</u> <u>2151/request-sample</u>

Top Trends

The automotive industry is undergoing a shift from internal combustion engines (ICEs) to electric motors, as the customers and the governments are becoming more aware and concerned about the environmental and economic impacts of fossil fuels. This trend is driving the demand for electric vehicles (EVs), hybrid electric vehicles (HEVs), and plug-in hybrid electric vehicles (PHEVs), which use batteries as the main or supplementary power source. Lead acid batteries are used in EVs, HEVs, and PHEVs for auxiliary power supply, such as lighting, air conditioning, and infotainment systems. They are also used in some low-cost and low-speed EVs, such as electric bikes, scooters, and rickshaws, especially in developing countries. The increasing electrification of vehicles is expected to boost the demand for lead acid batteries in the automotive sector.

Micro-hybrid vehicles are vehicles that have a start-stop system, which automatically shuts off the engine when the vehicle is idle, and restarts it when the driver presses the accelerator pedal. This system helps to reduce the fuel consumption and emissions of the vehicle, and improve its efficiency and performance. Lead acid batteries are the preferred choice for micro-hybrid vehicles, as they are low-cost, reliable, and compatible with the start-stop system. They are also able to provide high power output and withstand frequent charge-discharge cycles. The growing popularity of micro-hybrid vehicles is expected to increase the demand for lead acid batteries in the automotive sector.

The aftermarket is the secondary market for the automotive industry, which provides services and products for the maintenance, repair, and enhancement of vehicles, such as parts, accessories, tires, batteries, lubricants, and fluids. The aftermarket is an important segment of the Automotive Lead Acid Battery Market, as lead acid batteries have a limited lifespan and need to be replaced periodically. The rising demand for aftermarket services is driven by the increasing vehicle ownership, the aging of the vehicle fleet, the growing awareness and preference of the customers for quality and branded products, and the expansion and diversification of the distribution channels. The market players need to cater to the aftermarket segment and offer competitive prices, quality products, and value-added services to retain and attract customers. The Automotive Lead Acid Battery Market is also witnessing the emergence of new business models, such as battery leasing, battery swapping, and <u>battery recycling</u>. These business models aim to reduce the upfront and operational costs of the customers, increase the convenience and accessibility of the services, and enhance the sustainability and circularity of the battery value chain. For example, battery leasing is a model where the customers pay a monthly fee to use a battery, instead of buying it outright. This model allows the customers to avoid the high initial cost of the battery, and to benefit from the warranty, maintenance, and replacement services provided by the battery provider. Battery swapping is a model where the customers exchange their depleted battery for a fully charged one at a swapping station, instead of waiting for the battery to be recharged. This model allows the customers to save time and energy, and to extend the range and life of the battery. Battery recycling is a model where the used batteries are collected and processed to recover the valuable materials, such as lead, which can be reused for the production of new batteries. This model allows the customers to dispose of their batteries in a responsible and environmentally friendly way, and to reduce the dependency on the virgin materials. The market players need to explore and adopt these new business models to create new revenue streams, increase customer loyalty, and improve their social and environmental impact.

Top Report Findings

• The Global Automotive Lead Acid Battery Market was valued at US\$12.5 Billion in 2022 and is expected to grow at a CAGR of 2.5% from 2023 to 2030, reaching US\$14.8 Billion by 2030.

• The SLI segment accounted for the largest share of the market in 2022, followed by the EFB and AGM segments. The AGM segment is expected to witness the highest growth rate during the forecast period, owing to its superior performance, durability, and compatibility with modern vehicles and start-stop systems.

• The passenger car segment dominated the market in 2022, followed by the commercial vehicle and two-wheeler segments. The passenger car segment is expected to maintain its lead during the forecast period, due to the increasing demand for passenger cars, especially in emerging markets, and the rising adoption of micro-hybrid vehicles.

• Asia Pacific was the largest regional market in 2022, followed by Europe and North America. Asia Pacific is also projected to be the fastest-growing regional market during the forecast period, owing to the rapid growth of the automotive industry, the high penetration of electric and micro-hybrid vehicles, and the presence of major lead acid battery manufacturers and suppliers in the region.

• The Automotive Lead Acid Battery Market is highly competitive and fragmented, with the presence of several local and global players. Some of the key players in the market are Johnson Controls, Exide Technologies, GS Yuasa, EnerSys, Clarios, Amara Raja Batteries, East Penn Manufacturing, C&D Technologies, Hitachi Chemical, and Leoch International Technology.

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Challenges

Lead acid batteries are facing stiff competition from other battery technologies, such as lithiumion, nickel-metal hydride, and sodium-ion, which offer higher energy density, longer lifespan, faster charging, and lower weight than lead acid batteries. These batteries are more suitable for high-performance and high-end vehicles, such as EVs, HEVs, and PHEVs, which require high power and energy output. The market players need to improve the performance and efficiency of lead acid batteries, and to differentiate their products and services from the competitors, to sustain their market position and profitability.

Lead is a toxic and heavy metal that can cause serious environmental and health problems, such as soil and water contamination, air pollution, wildlife poisoning, and human diseases, such as lead poisoning, neurological disorders, and cancer. The production, use, and disposal of lead acid batteries involve the emission and exposure of lead, which pose significant risks to the workers, the customers, and the general public. The market players need to adopt stringent safety measures and standards, and to implement effective waste management and recycling practices, to minimize the environmental and health impact of lead acid batteries, and to comply with the legal and ethical obligations.

The Automotive Lead Acid Battery Market is subject to various regulations and policies, which vary across different regions and countries, and affect the demand and supply of lead acid batteries. These regulations and policies include the emission standards, the fuel economy standards, the vehicle electrification targets, the battery performance and safety requirements, the battery recycling and disposal rules, and the incentives and subsidies for the battery industry. These regulations and policies are constantly changing and evolving, in response to the environmental, social, and economic factors, and create uncertainties and challenges for the market players. The market players need to monitor and adapt to the changing regulatory and policy environment, and to engage with the stakeholders and policymakers, to ensure the compliance and alignment of their operations and strategies.

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Opportunities

The market players can expand their presence and reach into new markets and segments, where the demand for lead acid batteries is high or growing, and where the competition is low or moderate. For example, the market players can target the emerging markets, such as China, India, Brazil, and South Africa, where the automotive industry is booming, and where the customers are price-sensitive and prefer low-cost and reliable batteries. The market players can also target the niche segments, such as the two-wheeler, three-wheeler, and off-road vehicle segments, where the lead acid batteries have a strong foothold and a competitive advantage over other battery technologies. The market players can leverage their existing capabilities and resources, and adapt their products and services to the local needs and preferences, to capture the new markets and segments, and to increase their sales and revenue.

The market players can develop and offer new products and services, that can meet the changing and diverse needs and expectations of the customers, and that can differentiate them from the competitors. For example, the market players can develop and offer advanced lead acid batteries, such as bipolar lead acid batteries, which have higher power density, lower weight, and simpler structure than conventional lead acid batteries. The market players can also develop and offer value-added services, such as battery testing, diagnosis, monitoring, and maintenance, which can enhance the customer satisfaction and loyalty, and generate recurring revenue streams. The market players can invest in research and development, and innovate their products and services, to create value and competitive edge for their customers and themselves.

Key Questions Answered in the Report

- What is the size and growth rate of the Global Automotive Lead Acid Battery Market?
- What are the key segments and sub-segments of the market, and how are they expected to perform during the forecast period?
- What are the key drivers, restraints, opportunities, and challenges for the market growth?
- What are the key trends and developments that are shaping the market dynamics and outlook?
- What are the key regions and countries that are leading and emerging in the market, and what are the factors influencing their market performance?
- Who are the key players and competitors in the market, and what are their strategies, strengths, weaknesses, and market shares?
- What are the key products and services that are offered by the market players, and how are they differentiated and valued by the customers?
- What are the key regulations and policies that are affecting the market demand and supply, and how are they changing and evolving?
- What are the key opportunities and challenges that are facing the market players, and how can they overcome and exploit them?

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Regional Analysis

The Asia Pacific region is expected to be the fastest-growing market for automotive lead acid batteries, driven by the increasing demand for passenger cars and light commercial vehicles in developing economies like India, China, and Southeast Asia. The affordability and reliability of lead acid batteries make them a preferred choice in these markets. Additionally, government initiatives promoting fuel efficiency and reducing emissions are creating opportunities for advanced lead acid batteries with improved performance and lifespan. However, the region also faces challenges such as stringent environmental regulations and increasing competition from lithium-ion batteries. To remain competitive, manufacturers in the Asia Pacific region need to focus on innovation, sustainability, and strategic partnerships with key players in the automotive industry.

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