

India E-Rickshaw Lead Acid Battery Market Assessment, By Type [Flooded Lead-Acid Batteries, Sealed Lead-Acid Batteries (VRLA Battery or Valve-Regulated Lead-Acid Battery)], By Plate Type [Pasted Flat Plates, Tubular Plates], By Capacity (Amp Hours) [Less than 101 Ah, More than 101 Ah], By Distribution Channel [Manufacturer/OEM, Distributors, Wholesalers & Retailers, E-Commerce], By Region, Opportunities, and Forecast, FY2018-FY2032F

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Abstracts

The India E-Rickshaw Lead Acid market size in terms of Volume will grow from 1187.39 thousand units in FY2024 to 16413.88 thousand units by FY2032, at a CAGR of 38.86% during forecast period. Due to the affordability and utility for short distances, e-rickshaw is becoming more and more necessary throughout the nation. India sells over 11,000 brand-new electric rickshaws, bringing the total number of these vehicles to almost 1.5 million. Since many of them are still unregistered, these figures might be significantly higher. Lead acid batteries with a capacity under 101 Ah dominate the market for electric rickshaw batteries in India, accounting for over 45% of sales. The category will continue to drive the market in the upcoming years since consumers prefer inexpensive e-rickshaws. This may also be a result of the market's overwhelming presence of unorganised small enterprises, the majority of which manufacture inexpensive e-three-wheeler battery and components.

Electric three-wheelers are becoming more popular in the country since they are one of the most convenient and cost-effective ways of transportation for short distances. Currently, three-wheelers account for 83% of the Indian electric vehicle market. India

presently has over 1.5 million electric rickshaws, with approximately 11,000 new ones being sold each month. These estimates may be significantly higher because a huge proportion of people are still unregistered.

Electric variants cost between USD 811.6 and USD 1,487.9, while ICE-powered autorickshaws cost between USD 2,029.05 and USD 4,058.1. Similarly, the running cost for battery variants is only INR 0.4 per km, compared to INR 2.1-2.3 per km for petrol (gasoline) or CNG variants. Electric rickshaws have few maintenance difficulties, which cuts maintenance costs even further. Furthermore, the specific energy consumption of ICE-based autorickshaws is 362.4 kJ/passenger-km, whereas that of electric rickshaws is 53.76 kJ/passenger-km, demonstrating that electric rickshaws are significantly more energy-efficient.

Significant Demand for EV Causes Market Growth

The rise in the country's demand for electric three-wheeler vehicles had a significant impact on the demand for lead acid batteries. The promotion of electric three-wheeler vehicles (EV) among the public has been motivated by the rising pollution caused using combustible fuels in traditional vehicles as well as the exhaust of poisonous gases in the environment. The government is aggressively promoting the manufacturing of hybrid and electric automobiles components and batteries.

The demand for e-rickshaws is expected to rise in the next several years, which will help the India E-Rickshaw Lead Acid Battery Market to expand. Small commercial vehicles and electric rickshaws that carry passengers have established market demands. Government funding for the infrastructure for charging e-rickshaws also supports the expansion of the India E-Rickshaw Lead Acid battery market.

Integration of Smart Technology in E-Rickshaw Lead Acid Battery

Integrating smart technology in the e-rickshaw lead-acid battery market is growing urban mobility. The incorporation of Internet of Things (IoT)-enabled systems by manufacturers has improved real-time monitoring, optimized charging patterns, and enhanced efficiency. Such improvements are associated with increased battery life and provide users with valuable data that helps them better manage their vehicles. Smart battery management systems (BMS) provide safety and performance by regulating voltage and temperature. As e-rickshaws get more and more connected, they attract a larger consumer base looking for sustainable transportation solutions. This technological evolution is very important in meeting the increasing demand for efficient

and eco-friendly urban transport options.

For instance, in August 2024, Mahindra Last Mile Mobility Limited launched the all-new e-Alfa Plus, an electric three-wheeler designed for urban and rural transportation. It features a 150 Ah Lead Acid battery and a Permanent Magnet Synchronous Motor (PMSM), delivering a range of 100+ km on a single charge. The e-Alfa Plus also comes with an 18-month warranty and three-year accidental insurance

Increasing Popularity of The Shared Mobility Trend

Shared mobility services lessen traffic in urban areas and cut down on overall emissions. As a result, digitally enabled ride-hailing and e-rickshaw sharing efficiently manage transportation demands while also offering a convenient and sustainable alternative to owning a private vehicle.

Ride-hailing services are anticipated to play a significant role in the market over the forecasted year by eliminating manual labour and lowering overall time and cost, leading to the India e-rickshaw lead acid battery market growth.

Battery Swapping Policy

Within the upcoming months, the Indian government is anticipated to finalise incentives under its new battery exchange programme for electric cars (EVs). To support industries like ride-sharing and last-mile delivery, the policy will initially concentrate on battery swap services for electric scooters, motorcycles, and three-wheeled auto rickshaws.

Impact of COVID-19 on India E-Rickshaw Lead Acid Battery Market

The COVID-19 pandemic outbreak in Q1 in 2020 had a big impact on the country's E-rickshaw battery market expansion. The government's lockdown efforts to stem the spread of COVID-19 had a negative impact on the country's main shipping lanes for the factories that make lithium-ion and lead-acid batteries. In addition, the disruption of transportation services and travel restrictions brought on by the pandemic's lockdown have had a negative impact on market expansion. For instance, production facilities for e-rickshaw batteries were closed and the supply chain was disrupted, which slowed the market's expansion.

Post COVID-19 the automotive and transportation sector has been witnessed to

returning back to its growth phase rapidly due to the government initiatives towards EV facility adoption and growing consumer interest towards green mobility which further influenced the sales and demand for e-rickshaw lead acid batteries.

Impact of Russia-Ukraine War on India E-Rickshaw Lead Acid Battery Market

The Russia-Ukraine war had a significant impact on the India e-rickshaw lead acid battery market. Russia and Ukraine manufacture semiconductor & battery materials on a large scale which is directly related to EV market. The invasion between these two countries directly affects the production facility and supply chain disruption that will impact Russia's export of EV batteries to India and impacted the trade business of India e-rickshaw lead acid battery market.

Key Player Landscape and Outlook

Strategic long-term alliances and contracts are expected to play a vital role in maximising the revenue share of commercial companies. Additionally, because of the rising demand, players are emerging from established markets. Amara Raja Batteries Ltd (Amaron), HBL Power Systems Limited, Luminous Power Technologies Pvt. Ltd., Su-Kam Power Systems Ltd., Okaya Power Pvt. Ltd., Exide Industries Ltd., Base Corporation Ltd., True Power International Ltd., Star Battery Ltd., Southern Batteries Pvt. Ltd. are some of the key players dominating the market.

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*Companies mentioned above DO NOT hold any order as per market share

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