E-Bike Battery Pack - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 170 pages | Mordor Intelligence

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Report description:

The E-Bike Battery Pack Market size is estimated at USD 14.44 billion in 2025, and is expected to reach USD 26.99 billion by 2030, at a CAGR of 13.33% during the forecast period (2025-2030).

In 2020, the e-bike battery pack market witnessed a steady downfall in global demand due to the COVID-19 outbreak. Governments across the nations issued strict policies and regulatory frameworks to lower infection rates. However, on a microscale, the pandemic had a positive impact on electric bike sales. The growing health concerns resulted in more sales of e-bikes. For instance,

Key Highlights
- In 2020, about 1.95 million e-bikes were sold in Germany, up from 1.36 million in 2019.

The motor and battery are the two key components of an e-bike. Choosing the right battery pack plays a crucial role in purchasing an e-bike. The battery is also the costliest component of an e-bike. Currently, there are 24V, 36V, 48V, 52V, and 72V batteries available for e-bike applications.

Most legal electric bike kits use a 36V battery, and the more powerful motors may use a 48V or even a 52V battery. For very high-performance e-bikes, voltages can go up to 72V and beyond.

Over the long term, growing e-bike sales, a rise in e-bike sharing services, government initiatives to promote electromobility, and new launches of battery packs are expected to result in healthy sales of e-bike battery packs.

Key players are launching new products to address the growing market for e-bike battery packs and gain more market share. For instance,

Key Highlights
- In July 2022, Appear Inc. launched new graphene battery packs in 36V, 48V, 60V, 64V, and 72V ratings for E-Bikes, E-Scooters, and Pedelecs.
- In July 2022, UK-based e-bike conversion company Swytch launched its new e-bike conversion kit.

Geographically, Asia-Pacific was predicted to be the largest market for e-bike battery packs due to the widespread adoption of e-bikes, many major cities offering e-bike sharing services, rapid urbanization, growing traffic congestion and vehicular pollution, the large presence of battery OEMs, and growing usage of e-bikes by E-commerce and food delivery companies for last-mile delivery applications.

Europe is predicted to be the next biggest market for e-bike battery packs due to the rising sales of e-bikes, growing health consciousness amongst the general population, and the growing tendency to use e-bikes for adventure activities like mountaineering.

Thus, the confluence of the aforementioned factors is expected to produce significant growth in the e-bike battery pack market.

E-bike Battery Market Trends

Growing Demand for Lithium-ion Batteries

It is anticipated that, between 2021 and 2023, more than 130 million e-bikes (using all battery technologies) will be sold. In 2023, e-bike sales are expected to top 40 million units worldwide. The majority of the e-bikes sold each year used heavy lead-acid batteries. Over the forecast period, about two-fifths of all e-bikes sold globally are anticipated to feature lithium-ion batteries, with the proportion of lithium-ion batteries-powered e-bikes starting at about 25% in 2021 and rising to more than 60% during the forecast period.

E-bikes have efficient motors and the largest integrated batteries. Even then, for longer rides, the demand is unmet. To address this challenge, an additional e-bike range extender is being launched in the market so that the biker does not have to worry about the battery status. For instance,

- In February 2022, Priority Bicycles launched a range extender for its Current range of e-bikes. The range extender is a 500 kWh battery and will double the bike's standard range to 64 kilometers and 80 kilometers if used on lower power.

Although e-bikes batteries were produced mainly by established players in the past, many small and medium companies have also started using innovative methods to create more durable batteries to compete in the highly competitive market.

Key players are working to enhance the overall range and performance of the battery by launching new batteries. For instance,

- In September 2022, Bosch released its new race-oriented drive system, the Bosch Performance Line CX Race Limited Edition. In

Race mode, the new system will have up to 400% support of the rider's power, meaning riders can get up to speed faster.
- In September 2022, Yamaha Bicycles launched the updated Yamaha PW series S2 drive unit with 75 Nm torque. The new motor offers 7% more torque, 16% weight reduction, and 20% less volume than the previous generation PW-ST motor.

Thus, the aforementioned factors are projected to propel the market for e-bike battery packs market over the next five years.

Asia-Pacific to Hold Major Market Share

In 2021, Asia-Pacific was the largest market for e-bike battery packs. China has contributed to more than 50% of the Asia-Pacific e-bike battery pack market during 2018-2020, owing to its high consumption of electric bikes, to tackle heavy traffic conditions and growing vehicle pollution in the country.

China is the global market leader for e-bikes and e-bike components, especially the battery. The players in the market are constantly investing in R&D capabilities and production capacities to stay ahead of the competition. For instance, Contemporary Amperex Technology, Tianneng Battery, and Shenzhen Topband are adding extra production lines for LFP (lithium iron phosphate) batteries, majorly for e-bicycle applications.

The COVID-19 outbreak led to a sharp rise in the demand for electric bikes in China. The MaaS or mobility-as-a-service concept is gaining traction in China, and bike-sharing players such as Meituan's Mobike put several electric bikes on roads to cater to the rising demand in 2021. Bike-sharing companies are collaborating with battery makers to swap discharged and faulty batteries at dedicated kiosks. Investments are being made to strengthen charging infrastructure, and the use of technology such as artificial intelligence is helping predict demand more precisely.

In addition, Japan remained the second most potential country for e-bike battery packs in the Asia-Pacific region. Major factors driving the growth of the market in the country are the expanding customer base across all age groups and the penetration of electric sports bicycles.

Thus, Asia-Pacific is anticipated to remain the largest market for e-bike battery packs in the world due to the above factors.

E-bike Battery Industry Overview

The e-bike battery pack market is moderately consolidated, with major players holding most of the market share. Some of the major players include Bosch, Liv Cycling (EnergyPak), Panasonic, Samsung SDI, and Shinamo Inc. These companies are engaging in new product launches, joint ventures, and mergers and acquisitions to expand their business activities and cement their market position. For instance,

- In September 2022, the US-based e-bike company Optibike launched a 2,500W electric bicycle motor that claims to have the highest power-to-weight ratio in the world.
- In July 2022, ZappBatt and Toshiba signed a partnership agreement to develop long-lasting e-bike batteries using ZappBatt's proprietary AI software and Toshiba's lithium titanium oxide (LTO) battery cells, which will make lithium titanium oxide to be faster, smarter, and more cost-effective battery system.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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