

Electric Bus Market Assessment, By Propulsion [BEV, FCEV, Others], By Battery Type [Lithium-ion Battery, NiMH Battery, Lead-Acid Battery, Others], By Application [Intracity, Intercity], By Range [Up to 200 Miles, Above 200 Miles], By Length [Less than 9 Meter, 9 Meter – 14 Meter, Above 14 Meter], By Consumer [Government, Private], By Region, Opportunities and Forecast, 2017-2031F

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Abstracts

The global electric bus market is projected to witness a CAGR of 15.65% during the forecast period 2024-2031, growing from USD 31.2 billion in 2023 to USD 99.84 billion in 2031. The market has experienced significant growth in recent years and is expected to maintain a strong pace of expansion in the coming years.

The authorities around the world are adopting fast-charging technology for public transport. As countries try to limit carbon emissions, they replace major internal combustion engine bus fleets with electric buses. New players are also joining the market space with different grades of electric buses. The advent of hydrogen fuel cell technology in buses has also added strength to the overall market dynamics. Furthermore, the expanding passenger transport charging infrastructure in major cities of the world is expected to drive the market growth. Furthermore, rapid urbanization and intracity travel routes are also being equipped with electric bus technology. The government is also launching initiatives to subsidize electric passenger vehicles like buses, vans, and pickups. The transforming battery technology that supports fast-charging, long-term power delivery and efficiency is expected to drive the market growth. The effects of the proliferation of electric buses are anticipated to be analyzed in

the future but its impact on emissions is pushing government authorities to deploy them.

In September 2023, India and the United States partnered to deliver 10,000 electric buses in different cities of India. The collaboration has been made to support sustainable and eco-friendly public transport solutions.

Higher Fuel Prices and Flash Charging Technology to Fuel the Market Growth

Several incidents like the Russia-Ukraine war, trade tariffs, and sanctions have impacted global crude oil prices, flourishing the electric vehicles industry. Apart from governmental efforts, private transport companies have also started adopting electric buses and other vehicles for better return on investment (ROI). The lower maintenance and operational costs are working in the favor of these businesses and hence the adoption is likely to follow the upward trajectory during the forecast period. Electric bus manufacturers are also adopting the flash charging technology as it is faster and safer than fast charging. The flash charging allows the bus to rapidly charge during brief stops effectively. The technology optimizes operational efficiency and cost savings for transport businesses and operators.

In October 2023, Hitachi Energy India (Hitachi ABB Power Grids), Ashok Leyland, and IIT Madras developed the flash-charging technology. The pilot project is likely to enable electric buses to get charged in 20 seconds. The technology comprises automated fast charging stations at bus stops and is expected to decrease the charging and maintenance costs.

Transforming Battery-Electric Technology and Charging Infrastructure to Propel Market Growth

Public transport emissions, including buses and off-road vehicles, are major contributing factors to air pollution. While companies are deploying charging stations on different routes of the city, brands also partner with the government under public-private partnership (PPP) to run programs like school bus transformation. The clean-air advocates also tie up with companies to deploy the latest charging technology. The authorities are now providing special lanes and charging infrastructure for public transport electric vehicles. The higher penetration of these technologies and efficient modes of traveling have made electric buses a great alternative. The PPP are coming with extended charging capacity with an increased number of e-buses getting charged every day. These factors are expected to drive the market growth exponentially.

In July 2023, Electric bus and battery manufacturers, Proterra, California Utility PG&E, and ABC Bus companies tied up and built North America's largest electric bus charging station. This center includes 20 dual cable EV chargers that are configured to 60 kW per dispenser.

Government Subsidies and Higher Investments to Drive Market Growth

Ongoing electrification trends have influenced the government's public bus services. Developed and developing nations are adopting electric buses for their environmental and financial benefits. The government has initiated programs to implement electric and alternative fuel-based buses and invested in companies that work on sustainable transport technology, including artificial intelligence (AI) and machine learning (ML). For example, India's Faster Adoption and Manufacturing Electric Vehicles (FAME) is incentivizing companies as well as localities to replace them. In December 2023, the Indian government planned to replace 80,000 diesel buses with electric buses.

In July 2023, China's BYD allocated USD 600 million to build electric and hybrid buses in Brazil. Western automotive brands like Ford and Mercedes-Benz have stopped operating in the country while China is expected to fill that gap with its electric bus production.

Increased E-Commerce Operations and Higher ROI to Increase the Sales of Heavy-Duty Bus

Based on the propulsion type, the BEV segment performs significantly well. The factors attributed to the exceptional performance are its easy availability, hassle-free manufacturing, and effective implementation. The BEV has higher efficiency with easy charging and options available. OEMs are putting in efforts to make new batteries smarter and more powerful and efficient. This BEV propulsion is enabled with an advanced management system that constantly monitors the battery's health and delivers suggestions. The higher demand for BEVs is also due to the ongoing research and development (R&D) of hydrogen fuel cells. Furthermore, the e-bus ecosystem with advanced charging infrastructure and increased e-bus adoption is likely to propel the market growth.

In October 2023, Scania launched its new battery-electric bus platform at Busworld. Scania's new battery-electric bus, part of Scania's full e-mobility portfolio encompassing vehicles, services, and systems, made its world premiere at Busworld.

Introducing low-entry 4?2 buses, sustainably sourced and engineered batteries provide up to 520 kWh of energy storage capacity and have been specially designed for heavy commercial vehicles with a range of more than 500 km in optimal conditions.

Asia-Pacific Dominates Electric Bus Market

The electric bus industry in the Asia Pacific region is expected to grow significantly during the forecasted period. This is due to the increasing demand for environmentally friendly transport and the presence of countries like China, India, and Japan. China plays an important role in the electric bus sector and is home to the leading manufacturing companies. With favorable policies, electric buses are becoming more affordable; they have significantly decreased maintenance and fuel expenses. New emerging economies such as China and India are shifting their public and private transportation space to include more electric buses in their fleets.

In October 2023, BYD showcased two new pure-electric buses at Busworld. Busworld 2023 marks the world premiere of the new BYD-UnVI DD13, a pure-electric double-decker intercity with an advanced driver assistance system (ADAS) for added safety.

Future Market Scenario (2024 – 2031F)

Government initiatives, advanced battery technology, and expanded range are expected to be the game-changing factors during the forecast period.

International collaborations, deployments, and public-private partnerships are to be the highlight of the global market.

Development of hydrogen fuel cell propulsion to transform the global electric bus technology.

A new lightweight design with extended seating and bus length is expected to transform the manufacturing standards.

Key Players Landscape and Outlook

Key participants in the electric bus market are focusing on supply chains, advanced technology, and higher loading capacity. Companies are competing to undertake government projects and funds for building EV charging infrastructures. Key players are

collaborating, partnering, and acquiring companies working for enhanced technology to upscale their bus design and technology.

In December 2023, a new contract was signed between Solaris and ATM Milano, the Italian transport operator, for the delivery of 105 electric buses. In this case, the customer decided to buy 18-meter-long Urbino articulated buses, scheduled to be delivered in the first semester of 2025.

In November 2023, Indian EV startup, Blackbuck EV, launched a 13-meter e-bus for intercity transportation in India. Blackbuck EV is India's first new entrant in the bus transportation market. The company is focused on developing an ultra-low-weight, modular, e-bus platform.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

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