

Forklift Battery Market Report by Type (Lithium-ion Battery, Lead–Acid Battery, and Others), Sales Channel (OEM, Aftermarket), Application (Warehouses, Manufacturing, Construction, Retail and Wholesale Stores, and Others), and Region 2024-2032

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Abstracts

The global forklift battery market size reached US\$ 4.9 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 7.7 Billion by 2032, exhibiting a growth rate (CAGR) of 4.9% during 2024-2032. The increasing demand for electric forklifts, the overall growth of industries and the expansion of warehouses and distribution centers, and the development and implementation of autonomous forklifts or robotic material handling equipment are some of the major factors propelling the market.

A forklift battery is a specialized power source used to provide electrical energy to electric forklifts and other industrial equipment. It is powered by rechargeable batteries, making it a cleaner and more eco-friendly option for material handling operations. It typically comprises lead-acid, lithium-ion, or other advanced technologies designed to deliver the high power required to operate heavy lifting machinery efficiently. It is essential in warehouses, distribution centres, manufacturing plants, and various material handling environments. It is housed within the forklift's chassis and can be easily removed and replaced to ensure continuous operation during lengthy shifts. The charging process involves connecting the battery to an appropriate charging station, which restores its energy for the next round of operations.

The increasing demand for electric forklifts is driving the global market. As industries focus more on sustainability and reducing emissions, the demand for electric forklifts has been increasing. Electric forklifts are powered by batteries, which boosts the demand for forklift batteries. Moreover, the overall growth of industries and the



expansion of warehouses and distribution centres lead to an increased demand for forklifts and, consequently, forklift batteries. Besides, environmental regulations and safety standards may drive companies to invest in electric forklifts and suitable batteries to comply with emission reduction targets and safety guidelines. Sustainable practices and environmental consciousness are influencing various industries, including material handling. Forklift battery manufacturers are increasingly focusing on eco-friendly battery production, recycling programs, and minimizing the environmental impact of battery disposal. The development and implementation of autonomous forklifts or robotic material handling equipment also impact the forklift battery market. As automation becomes more prevalent in warehouses and logistics centers, the demand for efficient and durable batteries that can support autonomous operations is likely to grow.

Forklift Battery Market Trends/Drivers: Environmental Sustainability and Stringent Emission Regulations

As concerns over climate change and air pollution grow, industries are under mounting pressure to adopt greener practices. Forklifts, which are widely used in material handling operations, traditionally relied on internal combustion engines powered by fossil fuels. Since, these engines produce harmful emissions such as carbon dioxide, nitrogen oxides, and particulate matter. In response to this, there has been a significant shift towards electric forklifts that operate using forklift batteries. These batteries generate zero emissions during use, thus mitigating their environmental impact. Governments and regulatory bodies are also incentivizing the adoption of electric forklifts through tax credits, rebates, and favorable policies. This, in turn, is augmenting the growth of the forklift battery market as industries seek cleaner and more sustainable solutions to comply with environmental regulations and reduce their carbon footprint.

Continual Advancements in Battery Technology and Energy Efficiency

As research and development in battery chemistry progress, newer and more efficient battery types are being introduced. Lithium-ion batteries have gained popularity due to their higher energy density, longer lifespan, and faster charging capabilities compared to traditional lead-acid batteries. These advancements have significantly improved the performance and reliability of forklift batteries, allowing them to operate for longer periods without the need for frequent recharging. The improved energy efficiency translates to higher productivity and reduced operational costs for businesses utilizing electric forklifts. Moreover, ongoing research into alternative materials and emerging battery technologies holds the promise of even greater improvements in the future, supporting further adoption of electric forklifts and thereby fuelling the demand for forklift



batteries.

E-commerce Expansion and Warehouse Modernization

Electric forklifts, powered by advanced forklift batteries, have emerged as a preferred choice for indoor material handling in warehouses and fulfillment centers. These batteries enable electric forklifts to operate silently and emission-free, making them well-suited for indoor environments. Additionally, the adoption of automation technologies in warehouses has further impelled the demand for electric forklifts. Automated guided vehicles (AGVs) and other robotic systems integrated with forklifts require reliable and high-performing batteries to function seamlessly. Forklift batteries not only power the electric lift trucks used in warehouses but also play a critical role in supporting the operation of AGVs and other automated systems. As companies seek to optimize warehouse operations, improve order fulfillment speed, and enhance overall efficiency, the demand for electric forklifts and their accompanying batteries continues to rise, fuelling the growth of the forklift battery market.

Forklift Battery Industry Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global forklift battery market report, along with forecasts at the global, regional and country levels from 2024-2032. Our report has categorized the market based on type, sales channel and application.

Breakup by Type:

Lithium-ion Battery Lead–Acid Battery Others

Lead-acid battery dominates the market

The report has provided a detailed breakup and analysis of the market based on the type. This includes lithium-ion battery, lead-acid battery, and others. According to the report, lead-acid battery represented the largest segment.

Lead-acid batteries are designed to withstand tough working conditions, making them well-suited for the demanding and heavy-duty applications typical of forklifts. Forklifts are often used in warehouses, manufacturing plants, and construction sites, where they are exposed to vibrations, impacts, and extreme temperatures. Lead-acid batteries can



handle these harsh environments with relative ease, providing a stable and reliable power source for electric forklifts. Moreover, lead-acid batteries have a lower upfront cost compared to alternative battery technologies, such as lithium-ion batteries. This cost advantage makes them an attractive option, particularly for businesses and industries that require a large fleet of forklifts. The initial investment in lead-acid batteries is generally more affordable, which can significantly impact the overall purchasing decision for companies operating on tight budgets. Additionally, replacement parts for lead-acid batteries are readily available, contributing to their long-term viability and sustainability in the market.

Breakup by Sales Channel:

OEM

Aftermarket

A detailed breakup and analysis of the market based on the sales channel has also been provided in the report. This includes OEM, and aftermarket.

OEM batteries are those supplied directly by forklift manufacturers, specifically designed, and engineered to be a perfect match for their respective forklift models. Additionally, OEM batteries often come with comprehensive warranty and service support from the forklift manufacturers, ensuring timely resolution of any issues that may arise. The bundling of the battery cost with the forklift purchase simplifies the buying process for customers, providing a hassle-free experience.

On the other hand, the aftermarket battery sales channel represents the other significant segment in the forklift battery market. Aftermarket batteries are supplied by third-party manufacturers and suppliers, and they are not directly associated with the original forklift manufacturers. The batteries offer a wide range of options, including various chemistries, capacities, and price points, catering to specific customer needs and budget constraints. Numerous aftermarket battery suppliers ensure that their products meet industry standards and regulations, providing quality assurance to customers.

Breakup by Application:

Warehouses
Manufacturing
Construction



Retail and Wholesale Stores
Others

Manufacturing holds the largest share in the market

A detailed breakup and analysis of the market based on the application has also been provided in the report. This includes warehouses, manufacturing, construction, retail and wholesale stores, and others. According to the report, manufacturing accounted for the largest market share.

Manufacturing facilities across industries, such as automotive, electronics, food and beverage, pharmaceuticals, and more, heavily rely on forklifts for their material handling operations. Forklifts play a crucial role in efficiently moving and organizing raw materials, components, finished products, and heavy machinery within manufacturing facilities. Moreover, forklifts running on batteries tend to be quieter than their internal combustion engine counterparts, reducing noise pollution within manufacturing facilities. Additionally, electric forklifts produce zero emissions during operation, making them well-suited for indoor use where air quality and employee health are critical considerations. This eco-friendly attribute aligns with the manufacturing industry's growing focus on sustainability and environmental responsibility. Additionally, the precise control and maneuverability of electric forklifts make them ideal for navigating narrow aisles and confined spaces commonly found in manufacturing facilities.

Breakup by Region:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France



United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

Asia Pacific exhibits a clear dominance, accounting for the largest forklift battery market share

The report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada), Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others), Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others), Latin America (Brazil, Mexico, and others), and the Middle East and Africa. According to the report, Asia Pacific accounted for the largest market share.

Asia Pacific has significant manufacturing industries and robust economic growth, leading to a high demand for material-handling equipment, including forklifts. Moreover, the increasing emphasis on sustainability and environmental protection in the Asia Pacific region has accelerated the adoption of electric forklifts powered by forklift batteries. Governments in several Asian countries have introduced stringent emission regulations and initiatives to promote clean energy solutions, including incentives for electric vehicle adoption. This has significantly augmented the demand for forklift batteries as a cleaner and greener alternative to traditional internal combustion engine forklifts. Furthermore, the Asia Pacific region has witnessed significant investments in logistics and warehousing infrastructure due to the rapid growth of e-commerce and the expanding supply chain networks. As businesses focus for more efficient material handling operations and better warehouse automation, the demand for electric forklifts and their accompanying batteries has increased.

Competitive Landscape:

Forklift battery manufacturers are heavily investing in research and development to improve battery technology. This involved developing batteries with higher energy densities, faster charging capabilities, and longer lifespans. Advancements in battery



technology were crucial to enhancing the performance and efficiency of electric forklifts. Moreover, several companies are incorporating Internet of Things (IoT) and telematics technology into their battery-powered forklifts. IoT-enabled forklifts provided valuable data insights, such as battery health, charging patterns, and maintenance requirements, allowing businesses to optimize fleet operations, monitor performance, and reduce downtime. Companies are engaging in partnerships and collaborations with other players in the industry, such as forklift manufacturers, technology providers, and logistics companies. Collaborative efforts aimed to drive innovation, improve product offerings, and explore new business opportunities. Also, companies are increasingly emphasizing on sustainability and environmental responsibility.

The report has provided a comprehensive analysis of the competitive landscape in the market. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

Accumulatorenwerke HOPPECKE Carl Zoellner & Sohn GmbH Amara Raja Batteries Ltd.
Camel Group Co. Ltd.
Crown Equipment Corporation
East Penn Manufacturing Company
Enersys
Exide Industries Limited
Flux Power
Microtex Energy Private Limited
Northland Industrial Truck Co. Inc. (Alta Enterprises LLC)
Storage Battery Systems LLC

Recent Developments:

Systems Sunlight S.A.

In March 2023, Systems Sunlight S.A. launched Li.ON FORCE Lite battery, ideal for Class III industrial vehicles. This expansion of their innovative energy storage solutions portfolio to the US market includes a comprehensive lineup, spanning from lithium-ion and lead-acid products to Sunlight ElectroLiFe semi-traction batteries, PowerBox chargers, and Sunlight IoT solutions.

In March 2022, Flux Power launched a new High-Capacity Version of Lithium-ion Battery Pack for Walkie Pallet Jacks. This will help the customers to power their walkie pallet jacks in demanding applications that will last throughout extended shifts. In November 2022, Exide Industries Limited and Advanced Battery Concepts, LLC (ABC), announced their mutual intent to develop a commercial plan to manufacture and



sell ABC's Box-BE™ Battery Energy Storage Systems in the marketplace.

Key Questions Answered in This Report

- 1. What was the size of the global forklift battery market in 2023?
- 2. What is the expected growth rate of the global forklift battery market during 2024-2032?
- 3. What are the key factors driving the global forklift battery market?
- 4. What has been the impact of COVID-19 on the global forklift battery market?
- 5. What is the breakup of the global forklift battery market based on the type?
- 6. What is the breakup of the global forklift battery market based on the application?
- 7. What are the key regions in the global forklift battery market?
- 8. Who are the key players/companies in the global forklift battery market?



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