

Global Lithium-ion Battery Materials Market Size Study, by Battery Chemistry (LFP, LCO, NMC, NCA, LMO), by Material (Cathode, Anode, Electrolyte, Separator), by Application (Portable Device, Electric Vehicle, Industrial, Power Tool, Medical Device), and Regional Forecasts 2022-2032

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Abstracts

The global Lithium-ion Battery Materials Market, valued at approximately USD 33.9 billion in 2023, is poised to expand significantly, driven by a robust CAGR of 23.6% over the forecast period 2024-2032. This growth trajectory is a testament to the increasing importance of lithium-ion batteries in the global energy landscape, underpinned by their indispensable role in enabling high-performance applications across diverse sectors such as automotive, consumer electronics, and industrial systems.

As electric vehicles (EVs) dominate the automotive sector's innovation frontier, they remain the principal consumer of lithium-ion battery materials. These batteries, distinguished by their superior energy density, prolonged lifespan, and rapid charging capabilities, have revolutionized the EV market. Additionally, global regulatory frameworks advocating emission reductions, coupled with financial incentives for EV adoption, further amplify the demand for these advanced batteries.

The cathode material segment emerges as a pivotal contributor to the market, primarily due to its critical influence on a battery's capacity, energy density, and overall performance. Notably, cathodes incorporating Nickel-Manganese-Cobalt (NMC) chemistries have garnered substantial attention for balancing cost, performance, and longevity. These materials are expected to meet the growing energy needs of EVs and energy storage systems, which prioritize longer battery cycles and enhanced capacity.

Asia Pacific remains a key regional powerhouse, with China, Japan, and South Korea at the forefront of production and innovation in the lithium-ion battery materials domain. The region's robust manufacturing infrastructure, coupled with high EV adoption rates and government initiatives promoting clean energy technologies, positions it as a leader in this space. However, regions like North America and Europe are also witnessing substantial growth, driven by strategic investments in battery production and the localization of supply chains.

While challenges such as raw material cost volatility and supply chain bottlenecks may pose headwinds, opportunities abound in recycling technologies and advancements in alternative chemistries, paving the way for sustainable market expansion.

Major market players included in this report are:

Umicore (Belgium)

Sumitomo Metal Mining Co., Ltd. (Japan)

BASF SE (Germany)

POSCO Future M (South Korea)

Tanaka Chemical Corporation (Japan)

Nichia Corporation (Japan)

LG Chem (South Korea)

Samsung SDI (South Korea)

Panasonic Corporation (Japan)

BYD Company Ltd. (China)

Contemporary Amperex Technology Co., Ltd. (CATL) (China)

Hitachi Chemical Co., Ltd. (Japan)

SGL Carbon (Germany)

Tesla, Inc. (USA)

Envision AESC Group Ltd. (Japan)

The detailed segments and sub-segment of the market are explained below:

By Battery Chemistry:

Lithium Iron Phosphate (LFP)

Lithium Cobalt Oxide (LCO)

Lithium Nickel Manganese Cobalt Oxide (NMC)

Lithium Nickel Cobalt Aluminum Oxide (NCA)

Lithium Manganese Oxide (LMO)

By Material:

Cathode

Anode

Electrolyte

Separator

By Application:

Portable Devices

Electric Vehicles

Industrial

Power Tools

Medical Devices

By Region:

North America: U.S., Canada

Europe: UK, Germany, France, Spain, Italy, ROE

Asia Pacific: China, India, Japan, Australia, South Korea, RoAPAC

Latin America: Brazil, Mexico

Middle East & Africa: Saudi Arabia, South Africa, RoMEA

Years considered for the study are as follows:

Historical year – 2022

Base year – 2023

Forecast period – 2024 to 2032

Key Takeaways:

Market Estimates & Forecast for 10 years from 2022 to 2032.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market

approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

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