

Technology Landscape, Trends and Opportunities in the Global Lithium ion Battery Market

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Abstracts

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The technologies in the global lithium ion battery market have undergone significant changes in recent years, with lithium ion technologies evolving from low energy density to high energy densities. The rising wave of new technologies, such as nickel-cobalt-aluminum (NCA) and nickel manganese cobalt (LI-NMC), are creating significant potential in electric vehicle application and driving the demand for lithium ion battery technologies.

In the lithium-ion battery market, various battery technologies, such as lithium nickel manganese cobalt (NMC), lithium iron phosphate (LFP), lithium cobalt oxide (LCO), lithium-titanate-oxide (LTO), lithium manganese oxide (LMO), and lithium nickel cobalt aluminum oxide (NCA), are used in various end use industries. Increasing adoption of electric vehicles due to stringent government regulations to reduce carbon emissions, government incentives to promote electric vehicles, and rising demand for lithium-ion batteries in industrial and power storage application are creating new opportunities for lithium ion battery technologies.

This report analyzes technology maturity, degree of disruption, competitive intensity, market potential, and other parameters of various technologies in the lithium-ion battery market. Some insights are depicted below by a sample figure. For more details on figures, the companies researched, and other objectives/benefits on this research report, please download the report brochure.

The study includes technology readiness, competitive intensity, regulatory compliance, disruption potential, trends, forecast and strategic implications for the global lithium-ion

battery market by application, technology, and region as follows:

Technology Readiness by Technology Type

Competitive Intensity and Regulatory Compliance

Disruption Potential by Technology Type

Trends and Forecast by Technology Type [\$M shipment analysis from 2018 t%li%2030]:

Lithium Cobalt Oxide (LCO)

Lithium Nickel Manganese Cobalt (LI-NMC)

Lithium Nickel Cobalt Aluminum Oxide (NCA)

Lithium Iron Phosphate (LFP)

Lithium Manganese Oxide (LMO) and Others

Trends and Forecast by Application [\$M shipment analysis from 2018 t%li%2030]:

Consumer Electronics

LCO

NMC

NCA

Transportation

NMC

NCA

LFP

LM%li%and Others

Industrial

NMC

NCA

LFP

LM%li%and Others

Others

LCO

NMC

NCA

LFP

LM%li%and Others

Trends and Forecast by Region [\$M shipment analysis from 2018 t%li%2030]:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Asia Pacific

China

Japan

South Korea

India

The Rest of the World

Latest Developments and Innovations in the Lithium-ion Battery Technologies

Companies / Ecosystems

Strategic Opportunities by Technology Type

Emerging technology trends, which have a direct impact on the dynamics of the industry, include lithium air batteries, usage of silicon alloy anodes in lithium-ion batteries, and new generation lithium-ion batteries with new families of disruptive active materials. CATL, BYD, Duracell, EnerSys, GS Yuasa, Johnson Controls, LG Chem, and Panasonic Corporation are among the major technology providers in the lithium-ion battery market.

The Lucintel study finds that the total market size of the lithium-ion battery market is anticipated to be \$107.7 billion in 2030, and it is forecast to grow at 17.9% from 2024 to 2030. Lithium nickel manganese cobalt (LI-NMC) technology is the largest segment of the lithium-ion battery market, and it is expected to witness the highest growth due to its high power density, lowest self-heating rate, and good charge and discharge cycle.

This report answers the following 9 key questions:

Q.1 What are some of the most promising and high-growth technology opportunities for the lithium-ion battery market?

Q.2 Which technology will grow at a faster pace and why?

Q.3 What are the key factors affecting dynamics of different technologies? What are the drivers and challenges of these technologies in the lithium-ion battery market?

Q.4 What are the levels of technology readiness, competitive intensity, and regulatory compliance in this technology space?

Q.5 What are the business risks and threats to these technologies in the lithium-ion battery market?

Q.6 What are the latest developments in lithium-ion battery technologies? Which companies are leading these developments?

Q.7 Which technologies have potential of disruption in this market?

Q.8 Who are the major players in this lithium-ion battery market? What strategic initiatives are being implemented by key players for business growth?

Q.9 What are strategic growth opportunities in this lithium-ion battery technology space?

Contents

1. EXECUTIVE SUMMARY

2. TECHNOLOGY LANDSCAPE

- 2.1: Technology Background and Evolution
- 2.2: Technology and Application Mapping
- 2.3: Supply Chain

3. TECHNOLOGY READINESS

- 3.1: Technology Commercialization and Readiness
- 3.2: Drivers and Challenges in Lithium-ion Battery Technologies
- 3.3: Competitive Intensity
- 3.4: Regulatory Compliance

4. TECHNOLOGY TRENDS AND OPPORTUNITIES

- 4.1: Lithium-ion Battery Market Opportunities
- 4.2: Technology Trends (2018-2023) and Forecast (2024-2030)
 - 4.2.1: LCO
 - 4.2.2: NMC
 - 4.2.3: NCA
 - 4.2.4: LFP
 - 4.2.5: LMO and Others
- 4.3: Opportunities by Application
 - 4.3.1: Consumer Electronics
 - 4.3.1.1: LCO
 - 4.3.1.2: NMC
 - 4.3.1.3: NCA
 - 4.3.2: Transportation
 - 4.3.2.1: NMC
 - 4.3.2.2: NCA
 - 4.3.2.3: LFP
 - 4.3.2.4: LMO and Others
 - 4.3.3: Industrial
 - 4.3.3.1: NMC
 - 4.3.3.2: NCA

- 4.3.3.3: LFP
- 4.3.3.4: LMO and Others
- 4.3.4: Others
 - 4.3.4.1: LCO
 - 4.3.4.2: NMC
 - 4.3.4.3: NCA
 - 4.3.4.4: LFP
 - 4.3.4.5: LMO and Others

5. TECHNOLOGY OPPORTUNITY BY REGION

- 5.1.1: Global Lithium-ion Battery Market by Region
- 5.2: North American Lithium-ion Battery Market
 - 5.2.1: The United States Lithium-ion Battery Market
 - 5.2.2: Canadian Lithium-ion Battery Market
 - 5.2.3: Mexican Lithium-ion Battery Market
- 5.3: European Lithium-ion Battery Market
 - 5.3.1: United Kingdom Lithium-ion Battery Market
 - 5.3.2: German Lithium-ion Battery Market
 - 5.3.3: French Lithium-ion Battery Market
- 5.4: APAC Lithium-ion Battery Market
 - 5.4.1: Chinese Lithium-ion Battery Market
 - 5.4.2: Japanese Lithium-ion Battery Market
 - 5.4.3: South Korean Lithium-ion Battery Market
 - 5.4.4: Indian Lithium-ion Battery Market
- 5.5: ROW Lithium-ion Battery Market

6. LATEST DEVELOPMENTS IN LITHIUM-ION BATTERY TECHNOLOGY

7. COMPANIES/ECOSYSTEM

- 7.1: Product Portfolio Analysis
- 7.2: Geographical Reach

8. STRATEGIC IMPLICATIONS

- 8.1: Growth Opportunity Analysis
 - 8.1.1: Growth Opportunities for the Global Lithium-ion Battery Market by Technology
 - 8.1.2: Growth Opportunities for the Global Lithium-ion Battery Market by Application

- 8.1.3: Growth Opportunities for the Global Lithium-ion Battery Market by Region
- 8.2: Emerging Trends in the Global Lithium-ion Battery Market
- 8.3: Strategic Analysis
 - 8.3.1: New Product Development
 - 8.3.2: Mergers, Acquisitions, and Joint Ventures in the Global Lithium-ion Battery Market
 - 8.3.3: Technological Development in the Global Lithium-ion Battery Market
 - 8.3.4: Capacity Expansion in the Global Lithium-ion Battery Market

9. COMPANY PROFILES OF LEADING PLAYERS

- 9.1: CATL
- 9.2: BYD
- 9.3: Duracell
- 9.4: EnerSys
- 9.5: GS Yuasa
- 9.6: Johnson Controls
- 9.7: LG Chem
- 9.8: Panasonic Corporation
- 9.9: Samsung SDI
- 9.10: Toshiba Corporation

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