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Sodium-Ion Battery Market - A Global and Regional Analysis: Focus on Application, Product, and Regional Analysis - Analysis and Forecast, 2025-2035

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Abstracts

Introduction of Sodium-Ion Battery Market

The sodium-ion battery market has been steadily gaining attention as the world explores alternatives to lithium-ion (Li-ion) for energy storage. Concerns about lithium's limited availability, high cost, and environmental impact have positioned sodium-ion batteries as a promising option, particularly for grid energy storage and short-distance transport. Since 2023, government and research support has grown. For instance, in April 2024, the U.S. Department of Energy (DOE) announced a $15.7 million initiative to advance the manufacturing of sodium-ion batteries. The European Union's (EU) Horizon Europe (HE) program continues to fund research related to cleaner energy technologies. In February 2025, the Pacific Northwest National Laboratory (PNNL) highlighted progress in improving energy density under the Sodium-ion Advancement for Grid Energy Storage (SAGES) project.

Market Introduction

The sodium-ion battery (SIB) market has been gaining momentum as a reliable and sustainable alternative to lithium-ion technology, particularly for decentralized and renewable-based energy applications. In January 2025, Reliance Industries in India announced pilot deployments of SIBs in rural microgrids, showcasing the technology's potential to support localized energy systems while reducing reliance on imported lithium. This reflects a broader trend of growing industrial interest in SIBs as advancements in cell chemistry continue to improve energy density, cycle life, and cost-effectiveness. Although challenges remain in terms of supply chain development and performance optimization, ongoing R&D efforts and pilot projects have been

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accelerating the commercialization of SIBs. As demand for affordable, safe, and scalable energy storage solutions rises, sodium-ion batteries are expected to play an increasingly important role in the global energy transition.

Industrial Impact

The sodium-ion battery market has been experiencing steady growth, driven by increasing demand for safe, cost-effective, and sustainable energy storage solutions. With increasing pressure to diversify beyond lithium-based technologies, sodium-ion batteries offer a compelling alternative due to their reliance on abundant raw materials and lower production costs. Advances in electrode materials and battery design are improving energy density, cycle life, and charging performance, making these batteries increasingly suitable for applications such as grid storage, microgrids, and electric mobility. The market is further supported by growing investments from battery manufacturers and national initiatives aimed at strengthening energy security and supply chain resilience. As efforts to decarbonize energy systems accelerate globally, the sodium-ion battery market is expected to expand significantly, playing a crucial role in supporting the integration of renewable energy and broadening access to clean energy.

Market Segmentation:

Segmentation 1: by Application

Automotive

Electronics

Large Scale Stationary Energy Storage

Industrial

Others

Large Scale Stationary Energy Storage to Lead the Market (by Application)

Sodium-ion batteries have been gaining strong momentum in the large-scale stationary energy storage market due to their affordability, safety, and use of abundant materials

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such as sodium. They are increasingly seen as a strategic alternative to lithium-ion systems, particularly as lithium prices remain volatile and supply chains face geopolitical and environmental constraints. Technological advancements have significantly improved sodium-ion battery performance, making them viable for grid-level applications. In March 2025, BYD confirmed investments in sodium-ion production lines aimed at achieving cost parity with lithium-iron-phosphate (LFP) batteries.

Segmentation 2: by Product Type

Non-Aqueous Sodium-Ion Batteries

Aqueous Sodium-Ion Batteries

Solid State Sodium-Ion Batteries

Segmentation 3: by Form Factor

Prismatic

Cylindrical

Pouch

Segmentation 4: by System/Pack-Level Voltage

Low Voltage System (12V-60V)

Medium Voltage System (60V-300V)

High Voltage System (>300V)

Segmentation 5: by Region

North America

Europe

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Asia-Pacific

Rest-of-the-World

Recent Developments in the Sodium-Ion Battery Market

In April 2025, Contemporary Amperex Technology (CATL) expanded its sodium-ion battery production capacity to meet growing demand from EV manufacturers seeking low-cost alternatives to lithium-ion.

In March 2025, Altris AB secured an investment from the Volvo Cars Tech Fund to co-develop sodium-ion batteries for next-generation electric vehicles and energy storage systems, with a focus on cost reduction and sustainability.

In March 2025, Natron Energy partnered with Draslovka to scale up production of Prussian blue cathode materials, a key component in its sodium-ion batteries, with a new facility planned in Kolin, Czech Republic.

In March 2024, TIAMAT formed a strategic alliance with a European consortium to establish a sodium-ion battery supply chain supported by EU green energy funding.

How can this report add value to an organization?

Product/Innovation Strategy: This report provides a detailed analysis of the sodium-ion battery market segmented by product type, form factor, and system/pack-level voltage. It covers various battery types, including non-aqueous, aqueous, and solid-state sodium-ion batteries, offering insights into their evolving chemistries and technical advantages. Additionally, the form factor segmentation, i.e., prismatic, cylindrical, and pouch, helps stakeholders understand design trends based on application-specific requirements. The voltage-level analysis (low, medium, and high voltage systems) adds further granularity for organizations developing energy storage solutions across diverse use cases. The report helps product teams identify innovation opportunities and adapt their strategies to meet performance, integration, and cost-efficiency demands.

Growth/Marketing Strategy: The sodium-ion battery market has been rapidly evolving,

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with major players engaging in capacity expansion, strategic alliances, and pilot deployments to strengthen their market position. This report tracks those developments and provides insights into how key companies are entering or expanding in application segments such as automotive, electronics, large-scale stationary energy storage, industrial use, and others. It supports marketing teams in identifying high-growth sectors, aligning value propositions with end-user expectations, and crafting targeted go-to-market strategies based on regional dynamics and technological readiness.

Competitive Strategy: A thorough competitive landscape is provided, profiling leading players based on their product offerings, innovation pipelines, partnerships, and expansion plans. Competitive benchmarking enables readers to evaluate how companies are positioned across product types and application areas.

Research Methodology

Data Sources

Primary Data Sources

The primary sources involve industry experts from the sodium-ion battery market and various stakeholders in the ecosystem. Respondents, including CEOs, vice presidents, marketing directors, and technology and innovation directors, have been interviewed to gather and verify both qualitative and quantitative aspects of this research study.

The key data points taken from primary sources include:

validation and triangulation of all the numbers and graphs

validation of report segmentation and key qualitative findings

understanding the competitive landscape

validation of the numbers of various markets for market type

percentage split of individual markets for geographical analysis

Secondary Data Sources

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This research study involves the usage of extensive secondary research, directories, company websites, and annual reports. It also makes use of databases, such as Hoovers, Bloomberg, Businessweek, and Factiva, to collect useful and effective information for an extensive, technical, market-oriented, and commercial study of the global market. In addition to core data sources, the study referenced insights from reputable organizations and websites such as the International Energy Agency (IEA), World Economic Forum (WEF), International Organization of Motor Vehicle Manufacturers (OICA), and the European Automobile Manufacturers' Association (ACEA) to understand trends in energy storage, mobility, and sustainability impacting sodium-ion battery adoption.

Secondary research was done to obtain crucial information about the industry's value chain, revenue models, the market's monetary chain, the total pool of key players, and the current and potential use cases and applications.

The key data points taken from secondary research include:

- segmentations and percentage shares
- data for market value
- key industry trends of the top players in the market
- qualitative insights into various aspects of the market, key trends, and emerging areas of innovation
- quantitative data for mathematical and statistical calculations

Data Triangulation

This research study utilizes extensive secondary sources, including certified publications, articles by recognized authors, white papers, company annual reports, directories, and major databases, to collect useful and effective information for a comprehensive, technical, market-oriented, and commercial study of the sodium-ion battery market.

The process of market engineering involves the calculation of the market statistics, market size estimation, market forecast, market crackdown, and data triangulation (the

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methodology for such quantitative data processes has been explained in further sections). A primary research study has been undertaken to gather information and validate market numbers for segmentation types and industry trends among key players in the market.

Key Market Players and Competition Synopsis

The sodium-ion battery (SIB) market has been witnessing strong momentum, with significant deployments and technological advancements. In July 2024, China's state-owned Datang Group connected a 50?MW/100?MWh SIB energy storage system in Qianjiang, underscoring the technology's readiness for grid-scale use. In May 2025, China Southern Power Grid commissioned a 200?MW hybrid storage station in Yunnan, combining SIB and lithium-ion batteries to stabilize output from over 30 wind and solar plants. These projects, supported by government initiatives, demonstrate the value of SIBs in multi-hour renewable energy buffering, driving greater investor confidence and adoption.

On the manufacturing front, the market is shifting rapidly from prototype to large-scale production. In late 2023, Farasis Energy launched commercial SIB packs, achieving energy densities of 140-160 Wh/kg. In early 2024, BYD and its partners began constructing a 30 GWh/year SIB facility. Meanwhile, in early 2025, Yadea introduced electric scooters powered by SIBs, offering over 1,500 cycles and fast charging capabilities. These developments reflect a rising demand across both the mobility and stationary storage sectors, prompting manufacturers to scale up their operations and enhance battery performance to meet evolving market needs.

Some prominent names established in this market are:

Aquion Energy (Juline-Titans LLC)

Faradion (Reliance Industries Ltd)

HiNa Battery Technology Co., Ltd

BENAN Energy Technology (Shanghai) Co., Ltd (BENAN ENERGY)

AMTE Power plc (AGM Batteries Limited)

Natron Energy, Inc

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TIAMAT

Jiangsu Zhongna Energy Technology Co., Ltd.

Contemporary Amperex Technology Co. Limited (CATL)

Bluetti Power

Li-FUN Technology Corporation Limited

Indi Energy

Altris AB

Farasis Energy

BYD Company Ltd

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