Sodium Ion Battery Market to Witness Robust Expansion throughout the Forecast Period 2021 – 2031

Sodium Ion Battery Market Expected to Reach $1.2 Billion by 2031

Ion Battery Market

PORTLAND, OREGON, UNITED STATES, February 8, 2023 /EINPresswire.com/ -- The sodium ion battery market size was valued at $0.3 billion in 2021, and the sodium ion battery industry is estimated to reach $1.2 billion by 2031, growing at a CAGR of 15.9% from 2022 to 2031. Sodium ions de-intercalate from the cathode and move to the anode when the battery is charged. Sodium ion batteries offer high electrochemical quality in terms of charge-discharge, reversibility, and specific discharge capacity. These batteries are now being used in electric automobiles. A sodium ion (Si-ion) battery is a great replacement for a lithium-ion (Li-ion) battery. Li-ion battery materials cost higher than sodium ion battery materials. Sodium ion batteries are gaining appeal as an alternative energy storage solution for automobiles, aircraft, and marine applications, among others. Sodium ion batteries are in high demand due to their easy availability and accessibility. These batteries are appropriate for situations where compactness is secondary. Energy is stored in the form of chemical bonds at the anode.

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Growth in consumer demand for sodium ion batteries, notably in the automotive, electronics, and electrical industries, has led to an expansion of the global automotive sodium ion battery market growth. The transition to sodium battery cells will be simpler for manufacturers as handling sodium-based chemicals may be accomplished using the same equipment that handles lithium-ion components. As sodium metal is so widely accessible, sodium ion batteries are more likely to be long-lasting, which helps meet the growing need for a dependable power source.

Sustainability, affordability, and greater safety are just a few of the significant benefits sodium ion batteries may provide to EV manufacturers and consumers. However, compared to lithium-ion, sodium-ion batteries have a lower energy density. With further technological advancements, this problem should be resolved in the coming years. As a result, several battery manufacturers are looking into the prospect of using sodium ion batteries in place of conventional lithium-ion batteries in upcoming electric cars. The automotive sodium ion battery market is projected to grow as a result of all these causes.

In January 2020, the new EU-funded project NAIMA, "Na-Ion materials are essential components to manufacture reliable battery cells for non-automotive applications," started in France. The European Commission awarded this project a Horizon2020 program grant of almost EUR 8 million. The duration of the program is 36 months, which started in December 2019 and is expected to end in December 2022. The NAIMA project is expected to demonstrate that two new generations of highly competitive and safe sodium ion cells developed and tested during the project are some of the most robust and cost-effective alternatives to current and future Li-based technologies for storage applications. The presence of the above-mentioned trends and investments for the development of electric vehicles have a significant impact on the development of the sodium ion battery market opportunities.

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Battery Market Overview:

Battery technologies are an essential catalyst to unlock growth and new advances in sectors such as electric vehicles (EVs), electronic devices, and battery energy storage (BES) for renewable energy. An increase in dependence on battery storage is driving enormous demand. Thus, battery applications are expected to become a $400 billion-plus market by 2030, up from $142.3 billion in 2022.

Battery second life or recycling

-Recycling could be the last step undertaken only when batteries cannot be repurposed or reused. LFP has been a popular chemistry in the commercial use of EVs and stationary storage globally. The second use of LFP batteries makes great sense as unlike NMC or NCA batteries, LFP batteries do not contain high-value metals. Besides, LFP has a better cycle life and safety performance.
- Second-life batteries could be 50−70% cheaper than new ones.

The sodium ion battery market forecast is segmented on the basis of application, end-user, and region. On the basis of application, the market is fragmented into residential, commercial, and industrial. In addition, on the basis of end-user, the market is bifurcated into stationary energy storage and transportation. Region-wise, the market is studied across North America, Europe, Asia-Pacific, and LAMEA. Presently, Europe accounts for the largest sodium ion battery market

share, followed by North America, Asia-Pacific, and LAMEA.

The industrial segment dominates the global Sodium-ion battery market. Sodium-ion batteries have a wide range of applications in energy storage devices which are used for backup power supply in manufacturing industries. In addition, it is also widely used in large-scale renewable power generation utilities across the globe. Power and Energy industries play a vital role in the modernization and industrialization of human civilization. The electric power industry covers the generation, transmission, distribution, and sale of electric power to the general public and industry. The energy industry is the total of all of the industries involved in the production and sales of energy.

The stationary energy storage segment dominates the global Sodium-ion battery market. A stationary energy storage device can store energy and discharge it in the form of electricity. An array of batteries, an inverter, an electronic control system, and a thermal management system are often included in a stationary energy storage system. Unlike a fuel cell, which creates power without having to be charged, energy storage systems must be charged in order to deliver electricity when it is required.

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