

# Flexible Battery Market to Cross USD 180.52 Million by 2031, Driven by Rise of Wearable Tech and Medical Applications

Flexible Battery Market Size, Share, Growth Drivers and Regional Analysis, Global Forecast 2024 - 2031

AUSTIN, TEXAS, UNITED STATES, June 6, 2024 /EINPresswire.com/ -- Flexible Battery Market Size & Growth Analysis

The global flexible battery market is experiencing significant growth, driven by the increasing demand for lightweight, portable, and conformable power sources in various industries.

FLEXIBLE BATTERY MARKET

Electronic gadgets benefit from the flexibility and portability provided by flexible batteries. Flexible batteries are replacing traditional batteries because of their longevity, efficiency, and lower weight.

USD 1042.05 MN BY 2031

USD 180.52 MN IN 2023

The fastest-growing market for flexible batteries is in the Asia Pacific area.

Flexible Battery Market Size and Share Report

The SNS Insider report indicates that the Flexible Battery Market was valued at USD 180.52 million in 2023 and is expected to expand at a compound annual growth rate (CAGR) of 24.5% from 2024 to 2031, reaching USD 1042.05 million by 2031.

Growing Demand for Flexible Batteries Across Industries

The market growth is Driven by several factors, The ever-growing demand for wearable devices such as smartwatches, fitness trackers, and healthcare monitors necessitates compact and lightweight power sources. Flexible batteries offer a perfect solution due to their bendable, customizable, and lightweight nature, allowing manufacturers to design sleek and comfortable wearables without compromising performance. Flexible batteries are revolutionizing the medical field by powering implantable devices like pacemakers, defibrillators, and neurostimulators. Their biocompatible nature and long lifespan make them ideal for such applications. Additionally, medical and cosmetic patches powered by flexible batteries can monitor user health vitals and control drug delivery.

The increasing use of smart cards in sectors like banking, telecommunication, and transportation for secure payment transactions is driving the demand for flexible batteries, which are essential for powering the embedded chips. Flexible batteries offer a significant advantage over traditional rigid batteries in terms of weight and portability. This makes them ideal for a wide range of

electronic devices across consumer electronics, aerospace, and defense applications. Government initiatives promoting sustainable energy storage solutions and reducing electronic waste are expected to further accelerate the adoption of eco-friendly flexible battery technologies.

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### **KEY PLAYERS:**

- Blue Spark Technologies
- Samsung SDI
- LG Chem
- Enfucell Oy Ltd
- Apple Inc.
- Panasonic
- Fullriver Battery New Technology Co. Ltd.
- Paper Battery Co. Inc.
- Brightvolt Inc.
- Stmicroelectronics N.V
- Rocket Electric
- Ultralife Corporation
- BrightVolt
- Imprint Energy
- Energy Diagnostics
- Jenax

# **Recent Developments**

- May 2023, STMicroelectronics introduced the L9961 battery-management-system (BMS) device, offering improved performance and durability for lithium batteries. This advancement enhances the safety, efficiency, and lifespan of Li-ion and Li-polymer batteries used in various applications.
- Samsung's announcement regarding the introduction of graphene batteries in mobile phones within a few years signifies a significant development. Graphene batteries boast faster charging times, higher capacity, and a lightweight, flexible design.

### **KEY MARKET SEGMENTS:**

### BY VOLTAGE:

- below 1.5V
- between 1.5V and 3V
- above 3V

By Voltage, the segment for batteries More than 3V is expected to witness the highest CAGR during the forecast period. These batteries offer superior power, longer lifespan, and Improve safety compared to their lower voltage counterparts. They are particularly suitable for powering compact electronic devices where traditional batteries would create bulkiness.

### BY TYPE:

- Thin-film Batteries
- Printed Batteries

By Type, the thin-film battery segment currently dominates the market. These batteries offer several advantages, including high average output voltage, superior performance, and minimal risk of electrolyte leakage compared to bulkier solid-state batteries. Their suitability for miniaturized products in wearable devices, smart cards, smart packaging, and medical devices fuels their significant market share.

### BY APPLICATION:

- Consumer Electronics
- Smart Packaging
- Smart Cards
- Medical Devices
- Wireless Sensors
- Others

### BY CAPACITY:

- Below 10 mAh
- Between 10 mAh and 100 mAh
- · Above 100 mAh

### BY RECHARGEABILITY:

- Primary
- secondary

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# **Regional Growth Dynamics**

The Asia Pacific (APAC) region is projected to lead the market growth throughout the forecast period. This surge is driven by the increasing popularity of Internet-of-Things (IoT) enabled devices and portable consumer electronics in countries like China, South Korea, and Japan is driving the need for flexible batteries in the APAC region. South Korea houses major companies like LG Chem and Samsung SDI, who are at the forefront of developing curved and flexible batteries to power their smartphones, smart glasses, and wearable devices. The growing popularity of smart packaging in the APAC region necessitates the integration of flexible

batteries for functionalities like product tracking and consumer interaction.

Key Takeaways from the Flexible Battery Market

- The report provides a comprehensive analysis of the global flexible battery market, including market size, growth trends, segmentation, and regional analysis.
- It identifies key factors driving the market growth, such as the rise of wearable technology, advancements in medical applications, and the increasing demand for lightweight and portable electronics.
- The report also explores recent developments in flexible battery technology and analyses the impact of factors like the Russia-Ukraine war and potential economic slowdown on the market.
- Additionally, it offers valuable insights into key regional developments and identifies the APAC region as the frontrunner in market.

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