

# Flexible Battery Market Size to Hit USD 1452.77 Million by 2032, at a CAGR of 24.95% | SNS Insider

*The Flexible Battery Market is expanding with demand for lightweight, bendable power solutions in wearables, IoT devices, and medical applications.*

AUSTIN, TX, UNITED STATES, February 28, 2025 /EINPresswire.com/ -- Market Size & Industry Insights

As Per the SNS Insider, "The [Flexible Battery Market Size](#) was valued at USD 195.91 Million in 2023. It is estimated to reach USD 1452.77 Million by 2032, growing at a CAGR of 24.95% during 2024-2032"



driven by rising need for wearable electronics, IoT devices and medical implants. An ongoing migration toward lighter, compact and flexible energy storage devices is driving market growth — especially in consumer and healthcare sectors. Further, increasing adoption of use of smart cards, RFID tags, and flexible displays are further accelerating demand for the industry. These advances in solid-state electrolytes and printed battery technology allow for battery energy density and safety along with lifetime improvements, they fit next-generation applications. Moreover, the increasing utilization of 5G Technology, smart packaging, and electronic textiles (e-textiles) and the increasing uses are contributing to the growth of the market. The North America region showcases the largest share owing to the strong emphasis on R&D investments and advancements in the constituent healthcare sector, however, the Asia Pacific part is anticipated to gain the biggest growth in revenue on account of the steady growth of the electronics manufacturing domain in the region.

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SWOT Analysis of Key Players as follows:  
- Samsung SDI

- LG Chem
- Panasonic Corporation
- STMicroelectronics
- Enfucell Oy
- Blue Spark Technologies
- ProLogium Technology
- Ultralife Corporation
- Jenax Inc.
- BrightVolt
- Imprint Energy
- Cymbet Corporation
- VARTA Microbattery
- Saft Groupe S.A.
- NEC Corporation
- Excellatron Solid State
- Paper Battery Company
- Loxus Inc.
- Rocket Electric
- Apple Inc.

Major players like Samsung SDI, Panasonic, and Blue Spark Technologies are doubling their production output in response to increasing market demand. But their high manufacturing cost and low energy density continues to hinder industry growth, making further technology development essential to maintain market growth.

Key Market Segmentation:

By Type, Thin-Film Batteries Dominate, While Printed Batteries Lead in Growth

In 2023, thin-film batteries held a 56% market share, driven by their lightweight, flexible, and power-efficient nature, making them ideal for wearable electronics, medical implants, and RFID tags. Constructed with slender layers of electrodes and electrolytes, these batteries are widely adopted by industry leaders like Samsung SDI and Panasonic, particularly in IoT and portable electronics.

Printed batteries are set to grow at the fastest CAGR (2024-2032) due to an innovative manufacturing process that enables battery materials to be printed on flexible substrates. They are ideal for smart cards, disposable medical devices, and environmental sensors due to their cost-effectiveness and scalability. Imprint Energy and Enfucell are shaping the future of energy storage for low-power, disposable electronics.

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## By Voltage, Below 5V Segment Leads, While 5V–20V Batteries Drive Future Growth

In 2023, the below 5V segment dominated the Flexible Battery Market with over 55% market share, fueled by rising demand for compact, lightweight, and energy-efficient devices. These low-voltage batteries are crucial for wearables, IoT sensors, and medical devices, where seamless integration and space efficiency enhance performance. Industry leaders like Panasonic and Samsung SDI leverage these batteries in smart health monitors and fitness bands, aligning with the growing trend of personalized health tracking.

The 5V–20V segment is set to expand at the fastest CAGR (2024-2032), catering to higher-power electronics such as smartphones, tablets, and advanced medical devices. These batteries balance power output and portability, making them essential for foldable smartphones and diagnostic tools. Companies like LG Chem and Blue Spark Technologies are driving innovation, ensuring versatile and efficient power solutions for next-generation electronics.

## By Rechargeability, Primary Batteries Dominate, While Secondary Batteries Fastest Growing

In 2023, the primary battery segment led the Flexible Battery Market, primarily driven by its compact, lightweight design and long shelf life, preferably used in wearable devices, medical implants, and sensors. They offer long-term power without replacement for applications such as disposable medical devices and smart labels, with companies such as Ultralife Corporation leading the charge.

The secondary battery segment is projected to grow at the fastest CAGR (2024-2032), fueled by the shift toward eco-friendly, rechargeable solutions. These batteries support continuous power needs in devices such as smartphones, bendable screens, and IoT gadgets, reducing replacement frequency and offering long-term cost savings. Industry leaders like Panasonic and Samsung SDI are expanding their portfolio of flexible rechargeable batteries, catering to the rise of smartwatches, medical wearables, and next-generation flexible electronics.

## By Application, Consumer Electronics Dominating and Medical Devices Fastest Growing

In 2023, Consumer Electronics dominated the Flexible Battery Market, driven by the rising demand for wearables, foldable smartphones, and IoT devices. The increasing adoption of compact, lightweight, and energy-efficient power sources in smartwatches, fitness trackers, and wireless earbuds has positioned consumer electronics as the leading segment. Major brands such as Apple, Samsung, and LG Chem are actively integrating flexible batteries into their latest devices to enhance portability and performance.

The Medical Devices segment is expected to grow at the fastest CAGR (2024-2032), owing to ongoing innovation of implantable and wearable medical technologies. Finding applications in disposable medical patches, biosensors, remote health monitoring devices, etc., the demand for such products is increasing owing to a rising focus on personalized healthcare and telemedicine.

Panasonic, Ultralife Corporation, Blue Spark Technologies developing flexible battery solutions for new-age healthcare applications leading to high growth of the market.

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North America Leads, While APAC Emerges as the Fastest-Growing Market

In 2023, North America dominated the Flexible Battery Market with a 36% share, driven by top-tier companies, cutting-edge technology, and strong demand for innovative products. The region's high investment in flexible electronics, wearables, and medical devices fuels market expansion, with industry giants like Apple, LG Chem, and Samsung SDI integrating bendable batteries into smartwatches, medical implants, and foldable smartphones. Additionally, North America's focus on energy-efficient solutions and EVs strengthens demand, solidifying its market leadership.

The APAC region is set to grow at a rapid CAGR of 25.62% (2024-2032), backed by its booming electronics industry and swift adoption of advanced technologies. Countries like China, Japan, and South Korea are heavily investing in flexible battery innovations for consumer electronics, IoT devices, and renewable energy applications. Leading players such as Panasonic, Samsung SDI, and Murata Manufacturing are at the forefront, incorporating flexible batteries into smartphones, wearables, and energy storage systems, propelling APAC's strong market expansion.

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