

# Micro Battery Market by Type (Thin Film, Printed, Solid-state Chip, Button), Capacity (Below 10 mAh, 10 to 100 mAh, Above 100 mAh), Battery Type (Primary, Secondary), Application (Smart cards, Wireless Sensors) and Region - Global Forecast to 2028

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## Abstracts

The global micro battery market size is expected to grow from USD 0.5 billion in 2023 to USD 1.3 billion by 2028, at a CAGR of 22.4% from 2023 to 2028. Thin-film batteries enable devices to be lightweight and store energy in small packages. Printed batteries are an excellent power source for transdermal medical patches that are applied directly to a patient's skin to monitor body temperature. The demand for these medical patches is growing, increasing the demand for thin-film, printed, and flexible batteries to power such patches.

'Button battery segment is projected to hold a substantial share during the forecast period'

Button batteries are tiny discs -shaped, lightweight, low-power devices. These batteries are inexpensive, reasonably safe, and have a long shelf life. They have high leak protection and a high weight-to-power ratio. These batteries are easy to stack for higher voltages. Lithium coin cells are available in a wide range of sizes and capacities. Some of the companies which are offering button batteries/cells include TDK Corporation (Japan), Panasonic Holdings Corporation (Japan), Murata Manufacturing Co., Ltd. (Japan), VARTA AG (Germany), Renata SA (Switzerland), Duracell Inc. (US), Maxell, Ltd. (Japan), and STMicroelectronics International N.V. (Switzerland).

"Medical devices application is expected to grow at a significant CAGR during the forecast period"

Technological advancements and the penetration of IoT in the medical field have generated opportunities for new battery technologies. Implantable medical devices require batteries that can deliver a steady, reliable power source for a long. The reliability and performance of micro batteries make them attractive for applications in implantable devices such as neural stimulators, pacemakers, and defibrillators. Other devices such as pacemakers, drug delivery systems, medical patches, medical diagnosis sensors, and disposable medical devices can also use advanced batteries such as flexible and thin batteries. The micro battery's size and flexibility perfectly comply with these medical devices' requirements. For instance, button batteries are being used widely in several medical applications, including various medical devices such as hearing aids, insulin pumps, nebulizers, blood glucose meters, and more.

“The market in North America is expected to grow at a significant CAGR during the forecast period”

The advancements in the packaging industry of North America are leading to the integration of interactive displays, RFID tags, and smart labels in packages. Such smart packages require thin-film batteries, increasing demand in the region. Thus, the growth of the smart packaging market in North America is expected to drive the micro battery market during the forecast period. The micro battery is an efficient power storage technology that reduces the form factor and offers a flexible design for consumer electronics. Smart card technology is widely used to avoid fraudulent transactions. Banks, telecom industries, and high-security government departments are implementing smart card technology for personnel identification and resource tracking. As a result, the demand for thin-film and printed batteries is expected to increase significantly during the forecast period.

Breakdown of the profiles of primary participants:

By Company Type: Tier 1 - 35%, Tier 2 - 45%, and Tier 3 - 20%

By Designation: C-level Executives - 35%, Directors - 25%, and Others - 40%

By Region: North America - 45%, Europe - 20%, Asia Pacific - 30%, and RoW – 5%

Major players profiled in this report are as follows: Cymbet Corporation (US), Enfucell

(Finland), Ultralife Corporation (US), Molex, LLC (US), Panasonic Holdings Corporation (Japan), Murata Manufacturing Co., Ltd. (Japan), TDK Corporation (Japan), Maxell, Ltd. (Japan), VARTA AG (Germany), Renata SA (Switzerland), and Duracell Inc. (US) among others.

## Research Coverage

In this report, the micro battery market has been segmented based on type, material, capacity, battery type, application, and region. The micro battery market based on type has been segmented into thin film, printed, solid-state chip, and button batteries. Based on capacity, the market has been segmented into below 10 mAh, 10 to 100 mAh, and above 100 mAh. The market has been segmented into primary and secondary based on battery type. Based on application, the market has been segmented into consumer electronics, medical devices, wireless sensors, smart packaging, smart cards, and others. The study also forecasts the market size in four main regions—North America, Europe, Asia Pacific, and RoW.

## Key Benefits of Buying the Report:

The report provides insights on the following pointers:

Analysis of key drivers ( Benefits of micro batteries over traditional batteries, Rising adoption of micro batteries in electronic and medical devices, Rising use of wearable devices, Miniaturization of electronic devices), restraints (High investment costs, Lack of standards), opportunities ( Rising micro battery's integration in smart textiles, Growing use of wireless sensors equipped with micro batteries), and challenges (Complexities in battery fabrication) influencing the growth of the micro battery market

Product Development/Innovation: Detailed insights on upcoming products, technologies, research & development activities, funding activities, industry partnerships, and new product launches in the micro battery market

Market Development: Comprehensive information about lucrative markets – the report analyses the micro battery market across regions such as North America, Europe, Asia Pacific, Middle East & Africa, and South America.

Market Diversification: Exhaustive information about new products & technologies, untapped geographies, recent developments, and investments in

the micro battery market

**Competitive Assessment:** In-depth assessment of market ranks, growth strategies, and product offerings of leading players like Cymbet Corporation (US), Enfucell (Finland), Ultralife Corporation (US), Molex, LLC (US), Panasonic Holdings Corporation (Japan), Murata Manufacturing Co., Ltd. (Japan), and TDK Corporation (Japan), among others in the micro battery market

**Strategies:** The report also helps stakeholders understand the pulse of the micro battery market and provides them with information on key market drivers, restraints, challenges, and opportunities

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\*Details on Business Overview, Products Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats) might not be captured in case of unlisted companies.

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