

The Global Market for Thin Film Batteries, Printed Batteries, Flexible & Stretchable Batteries to 2030

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Abstracts

The energy demands of the ever-growing consumer electronics industry has consistently pushed the technological boundaries of batteries. The next wave of wearables will revolutionize society and dramatically improve quality of life. FitBit and Apple Watch will seem like early primitive devices compared to upcoming devices.

Advances over recent years in advanced materials, nanotechnology, MEMs fabrication, low-power microprocessors, new device architectures etc. has resulted in the rapid development of fitness and activity trackers, smart clothing, wearable technology, e-skins, and printable, rollable & stretchable electronic devices. The growth in flexible electronics has resulted in increased demand for flexible, stretchable, bendable, rollable and foldable batteries as power sources for application in flexible and wearable devices.

New developments in bendable smartphones have reached market readiness. These connected devices underpin the further development of the 'Internet of Things' (IOT).

However, the battery requirements of these technologies are fundamentally different from those currently serviced by Li-ion batteries (e.g. electric vehicles, laptops, handheld consumer electronic devices). A crucial challenge is developing fully integrated, lightweight, wearable and high-performance energy-storage devices to power the functioning devices in a wearable system. Flexible and stretchable batteries will play an important role in achieving the vision of wearable and conforming electronics.

As well as requiring characteristics such as low cost and high energy density and power density, battery requirements for new technologies require:

small footprint (conventional batteries take up to 40% of the space of wearables and mobile phones)

flexibility

various form factors

shape conformability

easy integration with devices.

Report contents include:

Battery device trends, competitive forces and dynamics, market drivers, emerging applications, and disruptive technologies

Emerging types of wearable batteries, materials, and smart fabrics

Market revenues, CAGR 2017-2030

In depth assessment of ultra-low power systems and components, energy harvesters, micro batteries and energy storage, supercapacitors, and power management solutions

Business trends, market projections, M&A developments, and startup activity

Wearable device applications for medical diagnostics and screening

Wearable device applications for medical diagnostics and screening

Flexible, stretchable, printed, and hybrid electronics

Connectivity, sensor fusion, body area networks, software algorithms, contextual awareness, virtual sensors, data transmission, and processing

Fabrication, packaging, and assembly techniques

Impacts of enabling technologies such as genomics, artificial intelligence, virtual

and augmented reality for wearables applications

Technology transfer, ecosystems and hubs, company formation. Companies profiled include Panasonic Corporation, STMicroelectronics, Enfucell, Samsung, Blue Spark Technologies, Brightvolt, Inc., Fuelium, Nippon Chemi-Con Corporation, Nanusens and more (75 company profiles)

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