

# Betavoltaic Device Market - Forecasts from 2021 to 2026

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## Abstracts

The betavoltaic device market was evaluated at US\$1.284 billion for the year 2019 and is projected to reach US\$2.434 billion by 2026 growing at a CAGR of 9.57%. The betavoltaic device is a type of nuclear battery that is reliable, has a long life efficiency, and provides high power density for the operation of the electrical system in an inaccessible and hostile environment. The demand for these betavoltaic devices is rising in applications where the replacement of batteries is not easy.

### Impact of Covid-19

The betavoltaic device market like any other market has faced a significant amount of loss due to the pandemic. Disruption in the supply chain due to lockdown restrictions in several countries and shortage of raw material negatively affected the market. The market remained sluggish in 2020, however with the removal of lockdown and revival of the economy the betavoltaic device market will witness an upward trend.

### Market Drivers

Tritium-containing Betavoltaic batteries have a capacity of approximately 24 watts per kilogram, with a complete 10-year operating life and a performance of about 25%. It is because of this we will see inexpensive, extended life, high energy density, and low-power batteries

The military could use these betavoltaic batteries to power electrical circuits that will protect military systems from tampering by destroying information stored in the systems.

According to a recent study, industries such as aerospace, electronics, marine, and communications are the major end-users of betavoltaic devices.

Potential demand in the medical devices sector is another reason for the growth in the market of betavoltaic devices. The manufacturers of medical devices are improving batteries for life-saving devices that once implanted in the body could last longer than 20 years. Devices such as cardiac pacemakers and defibrillators, chemical delivery infusion pumps, cerebral neurostimulators, in vivo drug delivery systems, intraocular implants, cochlear implants, brain-to-computer interface devices, and in vivo electronic medical tags or IDs require low-power, small, and long-lasting batteries.

An increase in the R&D investments by the companies making these betavoltaic devices will foster the demand in the market.

High investments in the space industry will further boost the market. The betavoltaic devices are used to power spacecraft.

Beta voltaic devices provide stronger resistance to environmental, intense vibration, and altitude conditions. In a large temperature range (from -60 °C to 150 °C), these devices are s

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health care. The U.S. Government induced by these applications decided to support betavoltaic system research and development for various applications in the health care, defense

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## Market Restraints

Accordingly, an increase in investment in the betavoltaic device in terms of research and development would create better prospects for betavoltaic devices and lead to market growth.

## Recent Trends

Developers of betavoltaic batteries are working on developing batteries that are powerful enough to run vehicles.

Major producers of betavoltaic devices are focusing their attention on the development of the product as well as extending their reach by expansion into untapped markets.

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The growth in the market can mainly be attributed to the growing prevalence of cardiovascular diseases in the countries, rising demand from the medical device industry, the increasing usage of betavoltaic devices as an alternative power supply for use in a hostile environment, and increasing investment in research and development. In order to gain a competitive advantage in the current market environment, market players should primarily concentrate on minimizing production costs, enhancing the overall performance of their products, and increasing the durability of betavoltaic devices.

## Major Players

Some of the major players dominating the market are City Labs, Inc., BetaBatt, Inc., Direct Kinetic Solutions, Widetronix, NUST MISIS and Qynergy Corp.

## Segmentation

By Type

Tritium

Krypton

Nickel

Others

By End-User

Aerospace

Electronics & Communication

Healthcare

Defense

Others

By Region

Americas

USA

Canada

Brazil

Others

EMEA

Germany

France

UK

Others

APAC

China

Japan

India

Others

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