

# **Flywheel Energy Storage Market Size, Share, and Analysis, By Application (Uninterrupted Power Supply, Distributed Energy Generation, Transport, Data Centers, and Others), By Rim Type (Solid Steel, Carbon Composite), By End-User (Healthcare, Transportation, Utilities and Renewables, Telecommunication, Data Centers, Industrial and Manufacturing, and Others), and By Region (North America, Europe, Asia-Pacific, And Rest of the World) And Regional Forecast 2024-2034**

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## **Abstracts**

Flywheel Energy Storage Market Size, Share, and Analysis, By Application (Uninterrupted Power Supply, Distributed Energy Generation, Transport, Data Centers, and Others), By Rim Type (Solid Steel, Carbon Composite), By End-User (Healthcare, Transportation, Utilities and Renewables, Telecommunication, Data Centers, Industrial and Manufacturing, and Others), and By Region (North America, Europe, Asia-Pacific, And Rest of the World) And Regional Forecast 2024-2034

## **PRODUCT OVERVIEW**

Flywheel Energy Storage Market is anticipated to exhibit a Compound Annual Growth Rate (CAGR) of 6.2% during the forecast span from 2024 to 2034. In 2023, the market size was assessed at USD 0.7 billion and is projected to reach USD 1.3 billion by the completion of 2034.

Flywheel energy storage is a technique for harnessing kinetic energy and conserving it in a rotating flywheel for later use. The system works by transforming electrical energy into rotational energy, storing it during the high-speed motion of flywheel, and then converting it back to electricity as needed. The flywheel, which is normally made of durable materials, rotates at a very high speed within a controlled environment such as a vacuum, to reduce the loss of energy due to friction. Furthermore, during the production of surplus energy, the extra electricity is used to speed up the rotation of flywheel with the help of a motor. The kinetic energy collected in the spinning flywheel is then transformed back into electricity using a generator as demand rises or during the scarcity of renewable sources. Moreover, this technology provides rapid response times for storing and retrieving energy, which makes it useful for power grid stabilization and managing fluctuating renewable energy sources.

## MARKET HIGHLIGHTS

Flywheel Energy Storage Market is anticipated to reach USD 1.3 billion during the forecast period, owing to an increasing emphasis on the inclusion of renewable energy and stability in the grid. The development of this industry has been driven by factors such as the rising use of sustainable energy sources and the need for reliable backup power options. Additionally, various sectors, including transportation, renewable energy, and utilities, have adopted flywheel energy storage systems due to their rapid response time and their ability to offer backup power during grid disturbances. Moreover, technological improvements have led to the creation of efficient and cost-effective flywheel systems, which further stimulates their adoption. Governmental support for the deployment of renewable energy and initiatives which are aimed at modernizing grids have created a favourable environment for the growth of flywheel energy storage market. Therefore, it is expected that this development will continue and flywheel energy storage will address various industrial needs of energy storage, ensuring the growth trajectory of the market.

Flywheel Energy Storage Market Segments:

By Application

Uninterrupted Power Supply

Distributed Energy Generation

Transport

Data Centres

Others

By Rim Type

Solid Steel

Carbon Composite

By End-User

Healthcare

Transportation

Utilities and Renewables

Telecommunication

Data Centres

Industrial and Manufacturing

Others

## MARKET DYNAMICS

### Growth Drivers

Integrating Renewable Energy Will Create New Opportunities for Growth

Grid Stability and Resilience Will Open Up New Growth Prospects

Restraint

High Costs And Rising Competition May Constrain Market Growth

Key Players

Active Power

Beacon Power

Piller Power Systems

Amber Kinetics

Kinetic Traction Systems

PowerTHRU

Temporal Power

Vycon Energy

Calnetix Technologies

Amber Solutions

Rotonica

Power Tree

Pentadyne Power Corporation

Stornetic

Levant Power

Other Prominent Players (Company Overview, Business Strategy, Key Product Offerings, Financial Performance, Key Performance Indicators, Risk Analysis, Recent Development, Regional Presence, SWOT Analysis)

Global Laboratory Temperature Control Units Market is further segmented by region into:

North America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United States and Canada

Latin America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – Mexico, Argentina, Brazil and Rest of Latin America

Europe Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United Kingdom, France, Germany, Italy, Spain, Belgium, Hungary, Luxembourg, Netherlands, Poland, NORDIC, Russia, Turkey and Rest of Europe

Asia Pacific Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – India, China, South Korea, Japan, Malaysia, Indonesia, New Zealand, Australia and Rest of APAC

Middle East and Africa Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – North Africa, Israel, GCC, South Africa and Rest of MENA

#### Reasons to Purchase this Report

Qualitative and quantitative analysis of the market based on segmentation involving both economic as well as non-economic factors

Provision of market value (USD Billion) data for each segment and sub-segment

Indicates the region and segment that is expected to witness the fastest growth as well as to dominate the market

Analysis by geography highlighting the consumption of the product/service in the region as well as indicating the factors that are affecting the market within each region

Competitive landscape which incorporates the market ranking of the major

players, along with new service/product launches, partnerships, business expansions, and acquisitions in the past five years of companies profiled

Extensive company profiles comprising of company overview, company insights, product benchmarking, and SWOT analysis for the major market players

The current as well as the future market outlook of the industry with respect to recent developments which involve growth opportunities and drivers as well as challenges and restraints of both emerging as well as developed regions

Includes in-depth analysis of the market of various perspectives through Porter's five forces analysis

Provides insight into the market through Value Chain

Market dynamics scenario, along with growth opportunities of the market in the years to come

3-month post-sales analyst support.

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