

# Flywheel Energy Storage Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2022-2027

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## Abstracts

The global flywheel energy storage market reached a value of US\$ 273 Million in 2021. Looking forward, IMARC Group expects the market to reach US\$ 435.3 Million by 2027, exhibiting a CAGR of 8.4% during 2022-2027. Keeping in mind the uncertainties of COVID-19, we are continuously tracking and evaluating the direct as well as the indirect influence of the pandemic on different end use industries. These insights are included in the report as a major market contributor.

Flywheel energy storage is the process of storing energy by accelerating rotors at high speed while maintaining it in the system as rotational energy. This process draws power from the system, on command, by tapping into the spinning rotor, which functions as a generator. It consists of a mechanical battery with a mass that rotates around an axis. Flywheel energy storage technology is emerging as a preferable alternative to conventional lead-acid batteries. It operates in a high vacuum environment and uses electrical motors to transform electrical power into mechanical power. The flywheel system is utilized in power grid frequency modulation as it offers low friction, moderate wind-resistance, a long life span, environmental safety, and requires no maintenance.

### Flywheel Energy Storage Market Trends:

The global flywheel energy storage market is primarily driven by its application across different industries such as automotive, transmission and distribution and information technology (IT). They are used in transportation and space applications for transferring energy and stabilizing or driving satellites. Besides this, the increasing need for uninterrupted and clean electricity supply in various end use sectors is fueling the energy storage industry. In line with this, governments across the world are taking initiatives to facilitate the generation of clean power, which is positively influencing the

market growth. Besides this, flywheel energy storage is also used for grid balancing, renewable integration, and providing power supply to islands and isolated grids. Furthermore, research and development (R&D) activities and innovations, such as the use of electrical machines, magnetic bearings, and high-strength composite materials obtained from carbon fibers in flywheel energy storage systems, are bolstering the demand for the market.

#### Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global flywheel energy storage market, along with forecasts at the global, regional and country level from 2022-2027. Our report has categorized the market based on application.

#### Breakup by Application:

- Uninterruptible Power Supply (UPS)
- Distributed Energy Generation
- Transport
- Data Centers
- Others

#### Breakup by Region:

- North America
  - United States
  - Canada
- Asia-Pacific
  - China
  - Japan
  - India
  - South Korea
  - Australia
  - Indonesia
  - Others
- Europe
  - Germany
  - France
  - United Kingdom
  - Italy
  - Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

#### Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being ABB Ltd, Adaptive Balancing Power GmbH, Amber Kinetics Inc., Beacon Power LLC, Calnetix Technologies LLC, Energiestro, Langley Holdings plc, Oxta Energy, Phillips Service Industries Inc., Schwungrad Energie Limited, Siemens Aktiengesellschaft, Stornetic GmbH and Teraloop Oy.

#### Key Questions Answered in This Report:

How has the global flywheel energy storage market performed so far and how will it perform in the coming years?

What has been the impact of COVID-19 on the global flywheel energy storage market?

What are the key regional markets?

What is the breakup of the market based on the application?

What are the various stages in the value chain of the industry?

What are the key driving factors and challenges in the industry?

What is the structure of the global flywheel energy storage market and who are the key players?

What is the degree of competition in the industry?

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