

# **Market space for flywheel energy storage**





## Overview

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The global flywheel energy storage market size was valued at USD 325.33 million in 2024. The market is projected to grow from USD 351.94 million in 2025 to USD 564.91 million by 2032, exhibiting a CAGR of 6.99% during the forecast period. Are flywheel energy storage systems a good choice?

Li-ion and lead-acid batteries are the most commonly used energy storage systems here. However, advantages of flywheel energy storage systems such as higher efficiency and longer life are projected to increase the demand for flywheel energy storage systems, within the country.

Can flywheels be used as a space station storage system?

Flywheels are being considered for use as the energy storage system on a proposed orbiting space station due to their potentially high storage density. During the past several years, graphite fiber technology has advanced, leading to significant gains in flywheel energy storage density.

How much energy does a flywheel store?

It would probably have to be in a cement enclosure, and in Florida a sump pump to keep it dry. A 1,000kg, 5m, 200RPM flywheel would store 685,567J of energy if it was shaped like a disc. That's 0.19kWh of energy — enough to boil the water for about seven (7) cups of tea or run a typical air conditioner for about 10 minutes.

Which countries use flywheel energy storage?

Some of the major automobile manufacturers such as Volkswagen, Mercedes Benz, and Porsche are headquartered in this country. Thus, the growing automobile industry is one of the biggest drivers of the flywheel energy storage market in Germany. The UK is committed in making use of renewable sources for energy storage.

Does national highways have a flywheel energy storage system?



National Highways is partnering with Levistor to test our Flywheel Energy Storage System (FESS) alongside batteries and solar installations. We're pleased to be working with Ansys and benefitting from their Startup Programme.

What is the Flywheel Energy Storage System (FESS)?

The Flywheel Energy Storage System (FESS) is a technology developed under collaboration between GKN and Dstl to demonstrate an energy storage option for the Royal Navy's most advanced ships. It is based on Le Mans motor-sport technologies and was originally developed by the Williams F1 team.



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### Flywheel Energy Storage Market Size , Growth Report [2032]

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### Energy and environmental footprints of flywheels for utility-scale

The net energy ratio is a ratio of total energy output to the total non-renewable energy input over the life cycle of a system. Steel rotor and composite rotor flywheel energy ...

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### [The Status and Future of Flywheel Energy Storage](#)

The core element of a flywheel consists of a rotating mass, typically axisymmetric, which stores rotary kinetic energy  $E$  according to (Equation 1)  $E = \frac{1}{2} I \omega^2$  [J], where  $E$  is the ...

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### Flywheel Energy Storage Market Size to Worth USD 1.81 Bn by ...

The global flywheel energy storage market size was valued at USD 1.43 billion in 2024 and is projected to worth around USD 1.81 billion by



2034 with a CAGR of 2.38%.

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### **Flywheel Energy Storage Systems Market to Hit \$744.3 Mn by ...**

According to a new report published by Allied Market Research, the global flywheel energy storage systems market size was valued at \$353.0 million in 2023, and is projected to ...

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### **[The Status and Future of Flywheel Energy Storage](#)**

Outline Flywheels, one of the earliest forms of energy storage, could play a significant role in the transformation of the electrical power system into one that is fully sustainable yet low cost. ...

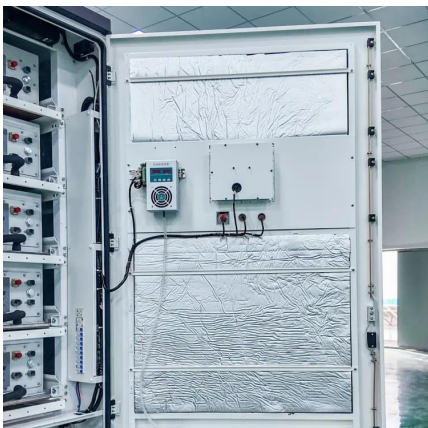
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### **Opportunities in Flywheel Energy Storage Market 2025-2033**

The flywheel energy storage market, currently valued at \$159.6 million in 2025, is projected to experience steady growth, driven by increasing demand for reliable and efficient ...

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### [Flywheel Energy Storage Market Size, SWOT, Growth](#)

Unlock detailed market insights on the Flywheel Energy Storage Market, anticipated to grow from USD 1.2 billion in 2024 to USD 5.0 billion by 2033, maintaining a CAGR of 18.0%. The ...

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### **Flywheel Energy Storage Market Size & Share, Growth Report**

The Flywheel Energy Storage Market size was valued at USD 359.53 million in 2023 and is expected to reach USD 840.84 million by 2032 with a growing CAGR of 9.9% over the forecast ...

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### **Flywheel Energy Storage Systems Market Size Report, 2030**

The flywheel energy storage systems market in the Middle East and Africa is poised for significant growth, driven by the increasing demand for reliable energy solutions and the integration of ...

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### **Arteche invests in flywheel maker Teraloop to join energy storage space**

Spanish electrical equipment manufacturer Arteche Lantegi Elkarte SA (BME:ART) announced on Friday that it has entered the energy storage market through a ...

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### [Flywheel Systems for Utility Scale Energy Storage](#)

Flywheel Systems for Utility Scale Energy Storage is the final report for the Flywheel Energy Storage System project (contract number EPC-15-016) conducted by Amber Kinetics, Inc.

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### **Flywheel Energy Storage Market Size, Share, Growth by 2030**

Global Flywheel Energy Storage market is estimated to reach \$614.8 Million by 2030; growing at a CAGR of 8.0% from 2023 to 2030. The adoption of clean energy sources ...

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### **Flywheel Energy Storage Market Size & Share , Industry Report ...**

Flywheel Energy Storage Market size was valued at US\$ 469.44 Million in 2024, expanding at a CAGR of 5.50% from 2025 to 2032. Flywheel Energy Storage (FES) is a mechanical energy ...

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### Flywheel Energy Storage Systems Market Research Report 2033

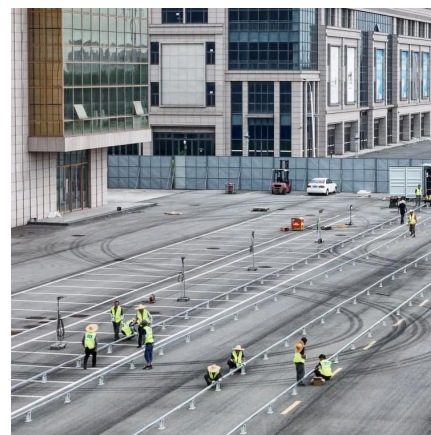
According to our latest research, the global Flywheel Energy Storage Systems market size reached USD 1.21 billion in 2024, demonstrating robust momentum as the world increasingly ...

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### Flywheel Energy Storage Systems Market Size & Forecast 2033

Flywheel Energy Storage Systems Market Size was estimated at USD 186.32 million in 2024 and it is expected to grow from USD 206.26 million in 2025 to USD 252.76 ...

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### Flywheel Energy Storage Market Statistics, 2025-2034 Report

The flywheel energy storage market size crossed USD 1.3 billion in 2024 and is expected to register at a CAGR of 4.2% from 2025 to 2034, driven by rising demand for reliable UPS ...

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