

# Super Capacitor Market: Global Industry Analysis, Trends, Market Size, and Forecasts up to 2030

Market Report | 2023-10-09 | 300 pages | Infinium Global Research and Consulting Solutions

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#### **Report description:**

The report on the global super capacitor market provides qualitative and quantitative analysis for the period from 2021-2030. The global super capacitor market was valued at USD 1.84 billion in 2022 and is expected to reach USD 5.68 billion in 2030, with a CAGR of 13.01% during the forecast period 2023-2030. The study on super capacitor market covers the analysis of the leading geographies such as North America, Europe, Asia Pacific, and RoW for the period of 2021-2030.

A supercapacitor is sometimes known as an Ultracapacitor (UC) (SC). It is a high-capacity capacitor with less stringent voltage requirements and a substantially greater capacitance value than typical capacitors. It bridges the gap between electrolytic capacitors and rechargeable batteries. This capacitor can store 10 to 100 times more energy per unit of volume or mass than an electrolytic capacitor. They also absorb and transfer energy more quickly than batteries and can withstand more charge and discharge cycles than rechargeable batteries. In automobiles, buses, trains, cranes, and elevators, supercapacitors are used for regenerative braking, short-term energy storage, or burst-mode power delivery. Smaller devices are also used to power Static Random-access Memory (SRAM). Supercapacitors are seen as an alternative to Li-ion batteries since they are superior energy storage technologies. Supercapacitors are appealing to a wide range of industries, including aviation, automobiles, and telecommunications, due to their high-power density and rapid charging and discharging characteristics.

As the demand for renewable energy sources rises, the market is expected to grow. Supercapacitors provide better energy and power densities than traditional capacitors and batteries, respectively. In wind and solar power plants, supercapacitors are mostly employed. Supercapacitors are utilized in numerous different applications, including the generation of renewable energy power, power systems, transportation, and many others. It has a broad temperature range, a high charge and discharges current capability, and very high efficiency. However, supercapacitors are not employed as long-term energy storage devices since they drain faster than lithium-ion batteries. Self-discharge causes the supercapacitor to lose charge. A battery's voltage output is more or less constant until it runs out, unlike a supercapacitor, whose voltage output drops linearly with charge. As a result, the supercapacitor is unreliable for uses that necessitate a constant energy source for a protracted period of time. The key restraining factor is the need for long-term storage, which is essential for energy applications. Although, the increasing awareness and adoption of renewable energy sources are creating opportunity for the supercapacitor market. These energy storage devices play a crucial role in enhancing the efficiency and reliability of renewable energy systems, presenting significant opportunities for

### market expansion.

Asia Pacific holds the largest market share in the supercapacitor industry; countries such as China, Japan, and South Korea were prominent players in this region. The rapid industrialization, adoption of Electric Vehicles (EVs), and the integration of renewable energy sources contributed significantly to the growth. Additionally, the presence of major manufacturers and the increasing demand for consumer electronics further boosted the market's prominence in APAC. Moreover, North America is fastest growing region in the supercapacitor market. The region's focus on electric transportation, renewable energy, and grid infrastructure projects contributed to this growth. The United States, in particular, saw an uptick in supercapacitor adoption, driven by advancements in EV technology and energy storage solutions. Initiatives promoting sustainable energy and government incentives also played a pivotal role in accelerating market growth.

**Report Findings** 

1) Drivers

- Growing demand for renewable energy sources propelled the market growth.

- Increasing urbanization and infrastructure growth in the automotive and technology industries which significantly drive market growth.

2) Restraints

- Supercapacitors are not employed as long-term energy storage devices since they drain faster than lithium-ion batteries this factor may restrain the market growth.

3) Opportunities

- Rising awareness about renewable energy sources is expected to create ample growth opportunities for the super capacitor market.

## Research Methodology

A) Primary Research

Our primary research involves extensive interviews and analysis of the opinions provided by the primary respondents. The primary research starts with identifying and approaching the primary respondents, the primary respondents are approached include

- 1. Key Opinion Leaders associated with Infinium Global Research
- 2. Internal and External subject matter experts
- 3. Professionals and participants from the industry
- Our primary research respondents typically include
- 1. Executives working with leading companies in the market under review
- 2. Product/brand/marketing managers
- 3. CXO level executives
- 4. Regional/zonal/ country managers
- 5. Vice President level executives.

### B) Secondary Research

Secondary research involves extensive exploring through the secondary sources of information available in both the public domain and paid sources. At Infinium Global Research, each research study is based on over 500 hours of secondary research accompanied by primary research. The information obtained through the secondary sources is validated through the crosscheck on various data sources.

The secondary sources of the data typically include

- 1. Company reports and publications
- 2. Government/institutional publications
- 3. Trade and associations journals
- 4. Databases such as WTO, OECD, World Bank, and among others.
- 5. Websites and publications by research agencies

#### Segment Covered

The global super capacitor market is segmented on the basis of type, material, module, and end user.

The Global Super Capacitor Market by Type

- Double-layer Capacitor
- Pseudocapacitors
- Hybrid Capacitors

The Global Super Capacitor Market by Material

- Activated Carbon
- Carbide Derived Carbon
- Carbon Aerogel

The Global Super Capacitor Market by Module

- Less than 10 Volts Modules
- 10 Volts to 25 Volts Modules
- 25 Volts to 50 Volts Modules
- 50 Volts to 100 Volts Modules
- Above 100 Volts Modules

The Global Super Capacitor Market by End User

- Automotive
- Industrial
- Consumer Electronics
- Aerospace
- Defense
- Others

**Company Profiles** 

The companies covered in the report include

- Maxwell Technologies
- Skeleton Technologies
- Eaton
- Quantic Evans
- Panasonic Industry Co., Ltd.
- Nippon Chemi-Con Corporation
- KEMET Corporation
- Murata Manufacturing Co., Ltd.
- Tecate Group
- KYOCERA AVX Components Corporation

#### What does this Report Deliver?

1. Comprehensive analysis of the global as well as regional markets of the super capacitor market.

2. Complete coverage of all the segments in the super capacitor market to analyze the trends, developments in the global market and forecast of market size up to 2030.

3. Comprehensive analysis of the companies operating in the global super capacitor market. The company profile includes

analysis of product portfolio, revenue, SWOT analysis and latest developments of the company.

4. IGR- Growth Matrix presents an analysis of the product segments and geographies that market players should focus to invest, consolidate, expand and/or diversify.

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