

Carbon Nanotubes (CNT) Market Revenue Share, Statistics, Size, Outlook To 2030 | Exactitude Consultancy

Carbon Nanotubes (CNT): Revolutionizing Materials Science with Exceptional Strength, Conductivity, and Versatility for Next-Generation Applications.

The Latest Research report on "global Carbon Nanotubes (CNT) Market Report 2023 – 000000

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DDDD" offers strategic visions into the global Carbon Nanotubes (CNT) market along with the market size (DDDDD – DDDDDDD DDDDDD DDDDDD – DD\$ DDDDDD) and estimates for the duration 2023 to 2029.

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Surging demand propels growth in the Carbon Nanotubes (CNT) Market, driven by their versatile applications in electronics, aerospace, and materials science"

Exactitude Consultancy

Carbon nanotubes are promising replacement for silicon transistors due to their high carrier mobility. The demand for CNTs is on a significant rise in the aerospace & defense industry, owing to their superior properties and capability to facilitate designing of lightweight parts. Currently, CNTs are used in composite materials employed in external surface of aircraft to reduce the risk of damage and penetration during lightning strikes. In the wind energy sector, carbon nanotubes have been employed to develop supercapacitors and turbine blade reinforcements. CNTbased supercapacitors are lightweight and have faster

response times than conventional heavy batteries. Wind turbine blades (WTBs) can be enhanced

using CNTs that are embedded in a polymer matrix. Rise in environmental concerns due to increase in use of petroleum products and coal as a major energy source have increased the adoption of renewable energy sources. Therefore, government organizations in various countries offer subsidies and funds to promote the usage of renewable energy sources such as wind, solar, and others.

Carbon nanotubes (CNT) market is expected to grow at 17.4% CAGR from 2024 to 2030. It was valued approximately 5.65 billion at 2023. It is expected to reach above USD 23.93 billion by 2030.

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Some of the important players in Carbon Nanotubes (CNT) market are:

Klean Commodities, SHOWA DENKO K.K., Jiangsu Tiannai Technology Co. Ltd., Carbon Solutions, Inc., Hyperion Catalysis International, Nanocyl SA, CHASM Advanced Materials Inc., Arkema SA, Cabot Corporation, Nanoshell LLC. and other.

Industry News and Updates:

March 2021 - Cabot Corporation launched a new ENERMAX 6 carbon nanotube series. The product is a high-performance CNTs with its high aspect ratio and is proven to be the most conductive multi-walled CNT product in Cabot's portfolio.

April 2020 - Cabot Corporation completed the acquisition of Chinese nanotube maker Shenzhen Sanshun Nano New Materials in USD 115 million. This acquisition will combine both the firm's business in making nanostructures and carbon blacks for energy storage. The business will be integrated into Cabot's Performance Chemicals Segment.

Carbon Nanotubes (CNT) Market Segmentation:

This research report categorizes the Carbon Nanotubes (CNT) market into the following segments and subsegments:

Carbon Nanotubes (Cnt) Market By Type, 2020-2030, (Usd Billion, Kilotons)

Single-Walled Carbon Nanotubes

Multi-Walled Carbon Nanotubes

Carbon Nanotubes (Cnt) Market By Method, 2020-2030, (Usd Billion, Kilotons)

Chemical Vapor Deposition

Catalytic Chemical Vapor Deposition

High-Pressure Carbon Monoxide Reaction

Others

Carbon Nanotubes (Cnt) Market By End User, 2020-2030, (Usd Billion, Kilotons)

Electronics & Semiconductors

Energy & Storage

Chemical Materials & Polymers

Medical

Structural Composites Applications

Others

DDDDDDDDDDDDDDDDDDDDDD: u. s., Canada, Mexico, Brazil, Argentina, Colombia, Chile, Nigeria, Tunisia, Morocco, Germany, uk (UK), Holland, Spain, Italy, Belgium, Austria, Turkey, Russia, France, Poland, Israel, United Arab Emirates, Qatar, China, Japan, Taiwan, South Korea, Singapore, India and Australia etc.

Asia-Pacific dominates the carbon nanotubes (CNT) market because of growing demand of carbon nanotubes (CNT) in electronic industries in this region. Furthermore, growth and expansion polymer industry in emerging countries such as India and China will further increase the market's growth.

North America is expected to be the fastest developing region from 2023 to 2030 because of the

growing usage of carbon nanotubes (CNT) in various end-use industries such as electrical and electronics, aerospace and defense, automotive, and more.

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Global Carbon Nanotubes (CNT) Market Dynamics

Drivers

Increasing demand for carbon nanotubes (CNT) in the aerospace and defense industry

Growing demand for carbon nanotubes (CNT) in the aerospace and defense industry is one of the major factors likely to propel the market growth during the forecast period. This significant rise in market growth is due to their superior properties and ability to facilitate the designing of lightweight parts. Carbon nanotubes (CNT) are used in composite materials to decrease the risk of damage and penetration during lightning strikes on external aircraft surfaces.

Surging agreements and mergers between market players to promote and distribute carbon nanotubes (CNT)

Increasing agreements and mergers between market players to promote and distribute carbon nanotubes (CNT) will propel the growth of the carbon nanotubes (CNT) market. For instance, ChemSpec signed a contract with Nanocyl SA to promote and distribute Nanocyl's multiwall carbon nanotube products in 2020. ChemSpec will target the industrial manufacturing markets in Canada and the United States. ChemSpec will concentrate all its efforts on the expansion of MWCNT in elastomer and thermoplastic compounding.

Opportunities

Growing demand for single-walled carbon nanotubes

Rising demand for single-walled carbon nanotubes will likely create lucrative market opportunities during the forecast period. Single-walled carbon nanotubes are extensively used in numerous end-use industries such as electrical and electronics. They play a vital role in solar cells because of their high-performance capabilities at low density compared to multi-walled carbon nanotubes. With the increasing demand for energy with a main focus on clean energy sources, solar energy has a gain attraction, which will likely create ample growth opportunities for the market.

Rise in government initiatives to promote energy conservation

Government initiatives to promote energy conservation aid the growth of the carbon nanotubes

(CNT) market. The adoption of carbon nanotubes in the production and storage of solar energy is expected to create emerging market opportunities all over the globe. For instance, Indian government initiatives such as Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahabhiyan Yojana, CPSU scheme phase two, and solar rooftop phase two are specifically designed to promote the storage and production of solar energy in the nation. These programs are likely to boost the market growth in the forecast period.

Restraints/ Challenges

High cost associated with carbon nanotubes (CNT)

The high cost of organizing appropriate conditions for carbon nanotube production is likely to hamper the market. Also, the ultimate commercial scale-up limitations increase carbon nanotubes' manufacturing costs, which may restrain the market growth.

Increasing concern regarding human health

Carbon nanotubes (CNT) greatly impact the environment, and to curb these impacts, manufacturing companies must adhere to many stringent government regulations and policies. The collected carbon nanotubes (CNT) pose a health threat to humans which may lead to serious health issues. Exposure to carbon nanotubes (CNT) causes damage to the kidneys.

(1) What was the size of the global Carbon Nanotubes (CNT) market in 2022?

(2) What is the expected growth rate of the global Carbon Nanotubes (CNT) market during 2023-2028?

(3) What are the key factors driving the global Carbon Nanotubes (CNT) market?

(4) What has been the impact of COVID-19 on the global Carbon Nanotubes (CNT) market?

(5) What are the key regions in the global Carbon Nanotubes (CNT) market?

(6) Who are the key players/companies in the global Carbon Nanotubes (CNT) market?

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