

# **Carbon Nanotubes Market By Type (Single, Multi Walled); By Method (Chemical Vapor Deposition, Catalytic Chemical Vapor Deposition, High Pressure Carbon Monoxide); By End User (Electronics & Semiconductors, Chemical, Batteries, Energy, Medical, Aerospace & Defense and Others); and Region – Global Analysis of Market Size, Share & Trends for 2019– 2020 and Forecasts to 2030**

<https://marketpublishers.com/r/C26240B2B57EEN.html>

Date: May 2022

Pages: 175

Price: US\$ 4,950.00 (Single User License)

ID: C26240B2B57EEN

## **Abstracts**

### Product Overview

Carbon nanotubes are cylindrical-shaped molecules consist of rolled sheets of carbon called graphene and also known as buckytube. They are long and thin, approximately having a diameter of 1-3 nanometers and a hundred to thousand nanometers long. Carbon nanotubes are classified as single-walled (SWNTs) and multi-walled carbon nanotubes (MWNTs) according to the number of graphic shells. Carbon nanotubes can be produced by different methods including filling, doping, functionalization, and chemical modification. Carbon nanotubes possess remarkable electrical conductivity. They are used in various areas of technology such as optics, nanotechnology, electronics, composite materials due to their exceptional thermal conductivity and tensile strength. Carbon nanotubes are used as structural polymer composites in the automotive and aerospace sector because of their mechanical properties like including flexibility and strength.

### Market Highlights

Global Carbon Nanotubes market is expected to project a notable CAGR of 17.12% in 2030.

Global Carbon Nanotubes market to surpass USD 30.16 billion by 2030 from USD 6.19 billion in 2020 at a CAGR of 17.12% throughout the forecast period, i.e., 2021-30. Global Carbon Nanotubes market is expected to observe growth in the future owing to its diversified application in different industries such as aerospace and defense and the electrical industry. Their thermal, electrical, and physical properties make them attractive for various industrial applications. Besides, increasing government initiatives towards wind energy generation are anticipated to surge the demand for carbon nanotubes in the coming years.

#### Recent Highlights in Global Carbon Nanotubes Market

In JANUARY 2019 SABIC acquired Black Diamond Structures, a major nanotechnology company based in US. The company provides various products including discrete carbon nanotubes (DCNTs) uniformly dispersed in battery pastes, that improve battery performance.

#### Global Carbon Nanotubes Market: Segments

Multi-Walled Carbon Nanotube segment to grow with the highest CAGR during 2021-30  
Global Carbon Nanotubes market is segmented by type into single and multi-walled carbon nanotubes. The multi-walled carbon nanotubes segment held the largest market share of XX.X% in the year 2020 and is expected to dominate the global market throughout the forecast period. Increasing application of multi-walled carbon nanotubes in conductive heating films, electrical conductivity, nanodevices, super batteries, and energy storages is estimated to boost the carbon nanotubes market. They are highly conductive when correctly integrated into a composite structure. Besides, they are in trend owing to their low cost

Chemical Vapor Deposition segment to grow with the highest CAGR during 2021-30  
Global Carbon Nanotubes market is segmented by Method into chemical vapor deposition, catalytic chemical vapor deposition, high-pressure carbon monoxide, and others. The Chemical Vapor Deposition segment held the largest market share of XX.X% in the year 2020 and is expected to maintain this trend throughout the forecast period. It is the fastest-growing method on account of its low cost and relatively high yield. Various manufacturers are using chemical vapor deposition over other methods to manufacture carbon nanotubes.

Electronics & Semiconductors segment to grow with the highest CAGR during 2021-30  
Global Carbon Nanotubes market is segmented by the end-user into electronics & semiconductors, chemical, batteries, energy, medical, aerospace & defense, and others. Electronics & Semiconductors segment held the largest market share of XX.X%

in the year 2020 and is expected to maintain this trend throughout the forecast period. In the electrical & Semiconductors industry, carbon nanotubes are utilized in manufacturing a wide range of electronic display screens such as television, mobile phones, and computer monitor. Carbon nanotubes have exceptional electronic and mechanical properties, hence making them desirable for new generation electronics applications.

## Market Dynamics

### Drivers

#### Increasing Application in Aerospace Industry

Carbon nanotubes usage is increasing in the aerospace industry due to their mechanical and electrical properties. They are utilized in the aerospace industry to enhance the functional performance of the composite and to develop high-performance, lightweight, and multifunctional aircraft. As various risks are involved in flying, aircraft manufacturers are determined to manufacture aerospace components tougher, stronger, and long-lasting.

### Technological Advancements

Innovation in nanotechnology-related to its manufacturing process and reinforcement with several materials is expected to bolster the carbon nanotubes market in coming years. Nanotubes are playing important role in technological advancements in electronics, medicine, engineering, and other applications. nanotubes market has potential for high growth soon due to its reduced production time and cost.

### Restraints

#### Environmental Concern

Production of carbon nanotubes leads to environmental pollution as various toxic chemicals are associated with it. Additionally, increasing demand for alternative nanomaterials such as metal oxide due to their low toxic nature is projected to hamper the market.

## Global Carbon Nanotubes Market: Key Players

Arkema S.A.

Company Overview

Business Strategy

Key Product Offerings

Financial Performance

Key Performance Indicators

Risk Analysis

Recent Development

Regional Presence

SWOT Analysis

Arry International Group LTD.

Carbon Solutions Inc.

Cheap Tubes Inc.

CNT Co., Ltd.

Ocsial Llc

Hanwha Chemical Corp.

Nano-C Inc.

Cnano Technology Ltd

Toray International Group Limited

Showa Denko K.K.

Continental Carbon Company

Other Prominent Players

Global Carbon Nanotubes Market: Regions

Global Carbon Nanotubes market is segmented based on regional analysis into five major regions. These include North America, Latin America, Europe, APAC, and MENA. Global Carbon Nanotubes market in Asia Pacific held the largest market share of XX.X% in the year 2019. The growing aerospace and defense industry, automobile and electronics industry in this region is estimated to surge the demand for carbon nanotubes. Additionally, technological advancements and innovation in the manufacturing of carbon nanotubes are projected to robust the global carbon nanotubes market.

Global Carbon Nanotubes 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

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

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

Global Carbon Nanotubes market report also contains analysis on:

Carbon Nanotubes Market Segments:

**By Type**

Single-walled Carbon Nanotubes

Multi-walled carbon nanotubes

**By Method**

Chemical Vapor Deposition,

Catalytic Chemical Vapor Deposition,

High-Pressure Carbon Monoxide

**By End-user**

Electronics &amp; Semiconductors

Chemical

Batteries

Energy

Medical

Aerospace &amp; Defense

Others.

Carbon Nanotubes Market Dynamics

Carbon Nanotubes Market Size

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- 8. NANO-C INC.**
- 9. CNANO TECHNOLOGY LTD**
- 10. TORAY INTERNATIONAL GROUP LIMITED**
- 11. SHOWA DENKO K.K.**
- 12. CONTINENTAL CARBON COMPANY**
- 13. OTHER PROMINENT PLAYERS**

Consultant Recommendation

\*\*The above-given segmentations and companies could be subjected to further modification based on in-depth feasibility studies conducted for the final deliverable.

## I would like to order

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