

**Europe Carbon Nanotubes Market Forecast to 2028 -Regional Analysis - by Type (Multi-Walled Carbon Nanotubes and Single-Walled Carbon Nanotubes), and Application (Electronics and Semiconductors, Energy Storage, Structural Composites, Aerospace and Defense, Medical, and Others)**

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**Report description:**

Europe carbon nanotubes market is expected to grow from US\$ 1,427.57 million in 2022 to US\$ 3,723.59 million by 2028. It is estimated to grow at a CAGR of 17.3% from 2022 to 2028.

Increasing Demand for Carbon Nanotubes (CNTs) for Energy Storage Applications is Fueling Europe Carbon Nanotubes Market

Carbon nanotubes are carbon nanostructures with characteristic electrochemical and mechanical properties such as low density, high strength and rigidity, high heat conductivity, and electrical conductivity. The aforementioned properties of CNTs are leveraged for the research and development of energy storage systems. Single-walled and multi-walled CNTs are utilized as conductive additives in Li-ion batteries and to develop battery electrodes in order to enhance battery performance. The rising demand for energy systems, along with its increasing cost, has influenced government organizations and researchers to develop efficient energy systems to fulfill global energy targets. For instance, in 2020, NAWA Technologies developed an ultra-fast carbon electrode, based on its patented Vertically-Aligned Carbon Nanotube (VACNT) technology, which is a vertical alignment of 100 billion nanotubes per square centimeter. In 2022, JiangSu Cnano Technology Ltd announced the plan to build battery materials, including conductive paste and carbon nanotubes, manufacturing plants in Germany.

The utilization of CNTs as a conductive additive in the production of batteries improves the conductivity by 10% compared to carbon black, thus reducing the use of conductive additives by 30%. Further, the growing demand for CNTs for electric vehicle battery materials has influenced carbon nanotube manufacturers to expand production facilities. For instance, in 2022, LG Chem

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Ltd invested in the establishment of a CNT single-line production facility in South Korea. The aim of the company was to produce 3,200 tons of carbon nanotubes per year to cater to the demands of the electric vehicle market. According to the International Energy Agency, the production capacity of batteries is projected to increase from 200 GWh in 2019 to more than 1,200 GWh by 2024, owing to rising electric vehicle sales. Thus, the increasing demand for CNTs for energy storage applications, as well as the rising battery production capacity, are driving the carbon nanotubes market

Europe Carbon Nanotubes Market Overview

The carbon nanotubes market in Europe is segmented into Germany, France, Italy, the UK, Russia, and the Rest of Europe. The regional market is anticipated to grow at a significant rate during the forecast period due to increasing demand for high-performance materials in various industries such as aerospace, automotive, and electronics. Europe is actively involved in research and development activities related to carbon nanotubes, with several prominent research institutions and companies operating in the region. Germany is a key market for carbon nanotubes in Europe, with the presence of several companies involved in the market and large number of research and development activities. Companies such as Bayer Material Science and Merck KGaA are involved in the production and supply of carbon nanotubes. Multiple research institutes, including the Fraunhofer Institute for Interfacial Engineering and Biotechnology, are also actively involved in research and development with respect to carbon nanotubes in Germany. The UK is another key market in the European carbon nanotubes market, as it houses several companies such as Haydale Graphene Industries and Thomas Swan that are involved in producing and commercializing carbon nanotubes. There are also many research institutions such as the University of Manchester's National Graphene Institute, which conduct research on the development of new carbon nanotube-based materials and applications.

Europe Carbon Nanotubes Market Revenue and Forecast to 2028 (US\$ Million)

Europe Carbon Nanotubes Market Segmentation

The Europe carbon nanotubes market is segmented into type, application, and country. Based on type, the Europe carbon nanotubes market is bifurcated into multi-walled carbon nanotubes, and single-walled carbon nanotubes. The multi-walled carbon nanotubes segment registered the largest market share in Europe carbon nanotubes market in 2022.

Based on application, the Europe carbon nanotubes market is segmented into electronics and semiconductors, energy storage, structural composites, aerospace and defense, medical, and others. The structural composites segment held a larger market share in 2022.

Based on country, the Europe carbon nanotubes market is segmented into Germany, France, Italy, the UK, Russia, and the Rest of Europe. Germany dominated the market share in Europe carbon nanotubes market in 2022.

Nanoshel LLC; Kumho Petrochemical Co Ltd; Klean Industries Inc; LG Chem Ltd; Nanocyl SA; Arkema SA; Tokyo Chemical Industries Co Ltd; and Cobot Corp are the leading companies operating in the carbon nanotubes market in the region.

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