# Nanocellulose Market by Type (MFC & NFC, CNC/NCC), Raw Material (Wood, Non-wood), Application (Paper & Pulp, Composites, Paints & Coatings, Biomedical & Pharmaceuticals, Electronics & Sensors), and Region - Global Forecast to 2032

Market Report | 2024-08-06 | 221 pages | MarketsandMarkets

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**Report description:**

The nanocellulose market is projected to grow from USD 0.6 billion in 2024 to USD 3.4 billion by 2032, at a CAGR of 23.7% from 2024 to 2032 owing to its unique properties like high strength, low density, and high aspect ratio, which make them suitable for various applications and increasing demand for nanocellulose-reinforced polymer composites. Furthermore, abundant cellulose-based raw materials, such as wood, agricultural waste, and bacterial sources, ensure a steady supply of feedstock for nanocellulose manufacturing. Nanocellulose production and processing processes have improved, making it more cost-effective and scalable for industrial applications.

"By type, the MFC & NFC segment is estimated to be the fastest-growing segment of the nanocellulose market from 2024 to 2032."
MFC and NFC have great mechanical qualities, high aspect ratio, and an enormous surface area compared to other nanocellulose types like CNC (Cellulose Nanocrystals). These features make MFC and NFC very good at strengthening polymer composites and other advanced materials. MFC and NFC have applications in many industries, including paper, packaging, biomedical personal care, and construction. The ability to use these nanocellulose types in many ways creates demand across multiple sectors. Also, better production methods, such as enzymatic and mechanical treatments, have made it easier and cheaper to manufacture MFC and NFC. This has made these nanocellulose types more commercially viable and scalable.

"The wood segment in raw material is projected to register the highest CAGR during the forecast period."
Wood is a natural resource that's easy to find, and there are lots of it, which means it's cheap and straightforward for making nanocellulose. Because there's so much wood available, making nanocellulose on a big scale for industry is possible.

Nanocellulose from wood has unique qualities like being long and thin, crystal-like structure, and strong, making it great for many uses. The uneven crystal structure and large surface area of nanocellulose from wood give it an edge over nanocellulose from other plants. Wood-based nanocellulose is used in various industries, including paper, packaging mixed materials, electronics, and biomedical sectors. The versatility and adaptability of wood-based nanocellulose contribute to its high CAGR.

"By application, the composite segment is estimated to be the fastest-growing segment of the nanocellulose market from 2024 to 2032."
Nanocellulose can significantly improve the mechanical properties of composite materials, such as tensile strength, flexural strength, and impact resistance. Nanocellulose's outstanding aspect ratio and reinforcing properties make it an excellent choice for increasing composite material performance. Nanocellulose-based composites have a distinctive mix of low density and high strength, making them ideal for weight-saving applications in the automotive, aerospace, and transportation industries. Nanocellulose is a renewable, biodegradable, and environmentally benign material that addresses the growing demand for sustainable composite solutions. Using nanocellulose in composites can reduce reliance on traditional petroleum-based materials while also promoting green and circular economy initiatives. Furthermore, ongoing development and research in nanocellulose synthesis, surface modification, and composite manufacturing techniques propels the nanocellulose-based composites sector ahead.

The European nanocellulose market is predicted to develop at the fastest CAGR over the forecast period."
The region has made significant investments in nanocellulose research and development through collaborations among academic institutions, research centers, and industry actors. Countries like Sweden, Finland, and Germany have substantial research capacity and infrastructure in nanocellulose. The European Union has enacted several policies and measures to encourage producing and using sustainable and environmentally friendly materials, such as nanocellulose. Policies such as the European Green Deal and the Circular Economy Action Plan have established a favorable regulatory environment to expand Europe's nanocellulose sector. Furthermore, the growing need for environmentally friendly and high-performance materials in the automotive, packaging, and construction industries propels European nanocellulose adoption.

Profile break-up of primary participants for the report:
- By Company Type: Tier 1 - 55%, Tier 2 - 27%, and Tier 3 - 18%
- By Designation: C-level Executives - 36%, Directors - 18%, and Others - 46%
- By Region: North America - 45%, Europe - 35%, Asia Pacific - 10%, Rest of the World- 10%

The nano cellulose report is dominated by players such as FiberLean Technologies (UK), Borregaard (Norway), Nippon Paper Industries (Japan), CelluForce Inc. (Canada), Kruger Inc. (Canada), Stora Enso (Finland), RISE Innventia (Sweden), American Process Inc. (US), FPInnovations (Canada), and UPM (Finland), Sappi (South Africa), OJI Holdings (Japan), and Norske Skog (Norway), among others.

Research Coverage:
The report defines, segments, and projects the size of the nanocellulose market based on type, raw material, application, and region. It strategically profiles the key players and comprehensively analyzes their market share and core competencies. It also tracks and analyzes competitive developments, such as investments, expansions, product launches, mergers and acquisitions, partnerships, raising funds, and agreements undertaken by them in the market.

Reasons to Buy the Report:
The report is expected to help the market leaders/new entrants by providing them with the closest approximations of revenue numbers of the nanocellulose market and its segments. This report is also expected to help stakeholders understand the market's competitive landscape better, gain insights to improve the position of their businesses and make suitable go-to-market strategies. It also enables stakeholders to understand the market's pulse and provides information on key market drivers, restraints,

challenges, and opportunities.

The report provides insights on the following pointers:

-Analysis of growth opportunities for the dimethyl carbonate market like rising demand across industries for polycarbonate), challenges arising out of the toxicity of raw materials used in synthesizing dimethyl carbonate, the probable opportunity opened by its application as a fuel additive, and this market's susceptibility to the fluctuations in the prices of oil and gas.
-Product Development/Innovation: In-depth examination of upcoming technologies and ongoing R&D initiatives in the nanocellulose market.
-Market Development: A thorough evaluation of profitable market prospects in several regions, providing insights into the nanocellulose market.
-Market Diversification: Comprehensive coverage of new goods, services, untapped geographical regions, recent breakthroughs, and investments in the nanocellulose industry.
-Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players FiberLean Technologies (UK), Borregaard (Norway), Nippon Paper Industries (Japan), CelluForce Inc. (Canada), Kruger Inc. (Canada), Stora Enso (Finland), RISE Innventia (Sweden), American Process Inc. (US), FPInnovations (Canada), and UPM (Finland), Sappi (South Africa), OJI Holdings (Japan), and Norske Skog (Norway), and among others in the nanocellulose market.

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