

Nanocellulose Market Assessment, By Material Type [Wood Pulp, Algae, Tunicates, Others], By Type [Cellulose Nano Crystal/Nanocrystalline Cellulose, Nanofibrillated Cellulose/Micro Fibrillated Cellulose/Cellulose Nanofibrils, Bacteria Cellulose, Amorphous Nanocellulose, Others], By Application [Cosmetic Additives, Paper Processing, Drug Delivery, Paints & Coatings, Resins & Adhesives, Cement, Food Emulsifier, Battery, Others], By End-use Industry [Cosmetics & Personal Care, Packaging, Paper & Pulp, Pharmaceuticals, Infrastructure Development, Food & Beverages, Electrical & Electronics, Others], By Region, Opportunities, and Forecast, 2016-2030F

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Abstracts

Global nanocellulose market size was valued at USD 363.5 million in 2022, which is expected to grow to USD 1234.27 million in 2030 with a CAGR of 16.5% during the forecast period between 2023 and 2030. The vital factors contributing to the growth of the nanocellulose market include the booming paper and pulp industry and the increasing adoption of nanofibrillated cellulose (NFC) due to the high mechanical reinforcement ability property. In addition, the entry of new players and startups in the nanocellulose market will boost the supply of products globally, thereby proliferating the growth of the nanocellulose industry size in the coming years.

The increasing production capacity of leading paper manufacturers, the launch of a new

range of paper products, and the surging demand from the packaging industry are the prominent determinants aiding the growth of the paper and pulp industry. Likewise, the revenue advancement of the cosmetics and personal care industry is accredited to factors, including increasing research and development in bio-based creams and lotions, surging adoption of men's fragrance products, and the rising inclusion of natural ingredients in haircare products. Hence, the booming industries, including paper & pulp and cosmetics and personal care, are fostering the demand for nanocellulose as the material is lightweight and ensures superior cost advantage, driving the market growth. However, the high-end technology requirements to produce nanocellulose are restraining the market growth.

The Booming Paper and pulp Industry is Accelerating the Market Growth

In the paper & pulp sector, deploying nanocellulose is vital to ensure superior properties such as higher optical properties, increased surface area, stiffness, lightweight, and excellent strength. The key variables contributing to the growth of the paper & pulp industry include the rising adoption of green packaging materials and the increasing sales of paper-based products through online sales channels.

According to the Indian Paper Manufacturers Association (IPMA), in 2021-22, the Indian paper market size was 19.87 million tons, a year-on-year growth rate of 6.8%. Therefore, the bolstering paper & pulp industry is boosting the demand for nanocellulose to significantly improve the paper quality, which, in turn, is accelerating the market growth.

Rising Adoption of Cellulose Nano Crystal (CNC) in various Applications Propels Market Growth

Cellulose nano crystal (CNC) is an organic and sustainable materials utilized as an ingredient in various applications including cosmetics additives, food emulsifiers, and paper processing. The cellulose nano crystal is employed in cosmetics additives to yield a texture that enhances a product's smoothness in body and facial applications. The increasing production activities for high-end luxury cosmetics products and increasing investment in advanced manufacturing facilities are fostering the production of cosmetics & personal care products, which is propelling the demand for cosmetics additives.

For instance, according to the statistics published by the Cosmetics Europe - The Personal Care Association, in 2022, the United States was the leading market for

cosmetics and personal care products valued at USD 102.14 billion, with an annual growth rate of 21.25%. Hence, the increase in the utilization of cellulose nano crystal in various applications to maintain superior anti-oxidant properties is supplementing the market growth.

Leading Share of Europe in the Nanocellulose Market

The European economy has a wide prevalence of various leading food manufacturers, strong production capabilities for paper and pulp, and state-of-the-art research and development centers for the innovation of a new range of personal care products. Thus, industries such as food, paper and pulp, and cosmetics and personal care are registering significant growth in the European region.

According to the recent report published by the Confederation of European Paper Industries (CEPI), in 2022, the total turnover of the paper and pulp industry in Europe was valued at USD 121,100.6 million (EURO 115,000 million), an increase of 21.1%. As a result, the booming end-use industries, including paper and pulp and food, are spurring the demand for nitrocellulose, thereby augmenting the market traction.

Future Outlook Scenario

The ongoing expansion of the food emulsifier manufacturing facility will drive the demand for nanocellulose in the coming years, fostering the revenue growth outlook of the market in the long run. For illustration, in June 2020, Palsgaard, a Denmark-based company offering food emulsifiers, invested USD 114.2 million (EURO 100 million) to double the production capacity of Denmark by 2024.

The recent procurement of quality certifications by nanocellulose manufacturers to maintain advanced production standards will accelerate the adoption of materials, driving market growth in the coming years. For exemplifier, in May 2022, CelluForce, headquartered in Germany, obtained ISO9001:2015 for producing cellulose nanocrystals (CNC) as the company conforms to the international quality standards.

The manufacturers of nanocellulose-based packaging are expanding their footprint in the international markets to increase their revenue share in the global market. For instance, in October 2022, Melodea, Ltd., an Israel-based manufacturer of nanocellulose announced its plans to enter the United States with the launch of cellulose nanocrystals-based packaging products in the country. Hence, the adoption of cellulose nanocrystals-based packaging will increase with the surge in the supply of

products, this, in turn, will create a lucrative growth opportunity for the nanocellulose market.

Key Players Landscape and Outlook

The dominant players in the nanocellulose market, including Asahi Kasei Corporation., Borregaard AS, GranBio, and NIPPON PAPER INDUSTRIES CO., LTD. have strong production capabilities as the companies are equipped with state-of-the-art manufacturing facilities and research & development department. The nanocellulose industry is a highly emerging market. As a result, various multinational conglomerates are entering the nanocellulose market to include bio-based materials in their business portfolio, leading to increased competitive rivalry in the overall industry.

In March 2021, Wilh. Werhahn KG., a leading materials manufacturer acquired Fiberlean, headquartered in Germany, a manufacturer of nanocellulose products such as Micro Fibrillated Cellulose (MFC). The prime focus of Wilh. Werhahn KG. was to enter the sustainable materials market.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

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