

The Global Market for Micro- and Nanocellulose 2024-2034

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Abstracts

Cellulose is renewable, biodegradable, non-toxic and the most important and naturally abundant organic biopolymer in the biosphere. It is the structural basis of plant cells produced from highly developed trees to primitive organisms such as seaweeds, flagellates and bacteria. In recent years, the conversion of renewable lignocellulosic biomass and natural biopolymers into commercial products has gained considerable attention. In addition, the gradual depletion of petroleum resources, the lack of space for landfills, concerns over emissions during incineration, and environmental pollution caused due to accumulation of these non-destructible solid wastes has spurred efforts to develop high performance materials which are eco-friendly and sustainable.

The Global Market for Micro- and Nanocellulose 2024-2034 covers cellulose from the micro- (cellulose fiber) to nanoscale (nanocellulose), including all recent developments made in the area of advanced bio-nanomaterials, chemical functionalization of celluloses from the micro- to nanoscale, and their processing and successful utilization for commercial applications.

Microfibrillated Cellulose (MFC) is a bio-based material composed of cellulose fibrils that have been separated from a source, typically wood pulp. MFC has a large surface area, thus allowing the formation of more hydrogen bonds within the web, giving natural strength to new materials. When added to the manufacturing process they produce a wide range of enhancements.

Nanocellulose (NC) covers a range of materials that vary based on their source raw material, synthesis methods, and structural features. Three types of NC are commercially available: cellulose nanocrystals (CNC), cellulose nanofibers (CNF), and bacterial nanocellulose (BNC). In addition to being produced in different ways, these

three types also vary in their physico-chemical properties, from size to crystallinity. The global nanocellulose (NC) market has accelerated over the last few years as producers in Japan and to a lesser extent North America and Europe bring products to market. The development of these remarkable materials has compelled major paper and pulp producers to gravitate their traditional business towards advanced biorefineries, which have met with initial success and resulted in production capacity increases. Most commercially produced NC is CNF, which is produced on a large scale in Japan.

The report provides in-depth analysis of production methods, key players, products, prices, end use markets including composites, packaging, medicine, automotive, aerospace, oil and gas, paints and coatings for micro- and nanocellulose. Also covered are commercialization challenges, SWOT analysis, applications, market outlook, and forecasts in both tonnage and revenues globally.

The report includes:

Comparative analysis of micro- and nanocellulose types - properties, production, pricing, applications.

Profiles of over 210 companies active across the micro- and nanocellulose value chain including products, production capacities, manufacturing methods, collaborations, licensing, customers and target markets.. Companies profiled include Anomera, Asahi Kasei, Borregaard Chemcell, Cellucomp, Celluforce, Chuetsu Pulp & Paper, Daicel Corporation, Daio Paper, DKS, Fiberlean, Fuji Pigment Co., Ltd., Innventia AB, KRI, Inc., Melodea, Nippon Paper, Norkse Skog, Oji, Sappi, Smart Reactors, Stora Enso, Suzano, and UPM.

Granular 10+ year demand forecasts in tons and market value for micro- and nanocellulose globally and by key regional markets.

Evaluation of adoption for composites, automotive, construction, packaging, textiles, healthcare, filtration, rheology modifiers.

Assessment of technological readiness, regional supply chains, competitive environment, R&D priorities.

Insights into IP trends, start-ups, partnerships, opportunities and challenges in commercialization.

Contents

1 INTRODUCTION

- 1.1 Cellulose
- 1.2 Feedstocks
 - 1.2.1 Wood
 - 1.2.2 Plant
 - 1.2.3 Tunicate
 - 1.2.4 Algae
 - 1.2.5 Bacteria
- 1.3 Cellulose fibers
 - 1.3.1 Microfibrillated cellulose (MFC)
 - 1.3.2 Commercial production of cellulose fibers from plants
 - 1.3.2.1 Seed fibers
 - 1.3.2.1.1 Cotton
 - 1.3.2.1.1.1 Production volumes 2018-2034
 - 1.3.2.1.2 Kapok
 - 1.3.2.1.2.1 Production volumes 2018-2034
 - 1.3.2.1.3 Luffa
 - 1.3.2.2 Bast fibers
 - 1.3.2.2.1 Jute
 - 1.3.2.2.1.1 Production volumes 2018-2034
 - 1.3.2.2.2 Hemp
 - 1.3.2.2.2.1 Production volumes 2018-2034
 - 1.3.2.2.3 Flax
 - 1.3.2.2.3.1 Production volumes 2018-2034
 - 1.3.2.2.4 Ramie
 - 1.3.2.2.4.1 Production volumes 2018-2034
 - 1.3.2.2.5 Kenaf
 - 1.3.2.2.5.1 Production volumes 2018-2034
 - 1.3.2.3 Leaf fibers
 - 1.3.2.3.1 Sisal
 - 1.3.2.3.1.1 Production volumes 2018-2034
 - 1.3.2.3.2 Abaca
 - 1.3.2.3.2.1 Production volumes 2018-2034
 - 1.3.2.4 Fruit fibers
 - 1.3.2.4.1 Coir
 - 1.3.2.4.1.1 Production volumes 2018-2034

- 1.3.2.4.2 Banana
 - 1.3.2.4.2.1 Production volumes 2018-2034
- 1.3.2.4.3 Pineapple
- 1.3.2.5 Stalk fibers from agricultural residues
 - 1.3.2.5.1 Rice fiber
 - 1.3.2.5.2 Corn
- 1.3.2.6 Cane, grasses and reed
 - 1.3.2.6.1 Switch grass
 - 1.3.2.6.2 Sugarcane (agricultural residues)
 - 1.3.2.6.3 Bamboo
 - 1.3.2.6.3.1 Production volumes 2018-2034
 - 1.3.2.6.4 Fresh grass (green biorefinery)
- 1.3.3 Regenerated cellulose fibers
- 1.3.4 Ionic liquids
- 1.4 “Nano” Cellulose (CNF, CNC, BNC)
- 1.5 Cellulose filaments

2 MICROFIBRILLATED CELLULOSE

- 2.1 Production capacities
- 2.2 Global market demand 2018-2034 (tons)
- 2.3 Market supply chain
- 2.4 SWOT analysis
- 2.5 Products
- 2.6 End use markets
 - 2.6.1 Paperboard and packaging
 - 2.6.1.1 Market overview
 - 2.6.1.2 Global market 2018-2024
 - 2.6.1.2.1 Tons
 - 2.6.1.2.2 Revenues
 - 2.6.1.2.3 By Region
 - 2.6.2 Textiles
 - 2.6.2.1 Market overview
 - 2.6.2.2 Global market 2018-2034
 - 2.6.2.2.1 Tons
 - 2.6.2.2.2 Revenues
 - 2.6.2.2.3 By Region
 - 2.6.3 Personal care
 - 2.6.3.1 Market overview

- 2.6.3.2 Global market 2018-2034
 - 2.6.3.2.1 Tons
 - 2.6.3.2.2 Revenues
 - 2.6.3.2.3 By Region
- 2.6.4 Paints and coatings
 - 2.6.4.1 Market overview
 - 2.6.4.2 Global market 2018-2034
 - 2.6.4.2.1 Tons
 - 2.6.4.2.2 Revenues
 - 2.6.4.2.3 By Region
- 2.6.5 Other markets
- 2.7 Company profiles 99 (58 company profiles)

3 CELLULOSE NANOFIBERS

- 3.1 Advantages of cellulose nanofibers
- 3.2 Pre-treatment and Synthesis methods
 - 3.2.1 Acid hydrolysis
 - 3.2.2 TEMPO oxidation
 - 3.2.3 Ammonium persulfate (APS) oxidation
 - 3.2.4 Enzymatic Hydrolysis
 - 3.2.5 Ball milling
 - 3.2.6 Cryocrushing
 - 3.2.7 High-shear grinding
 - 3.2.8 Ultrasonication
 - 3.2.9 High-pressure homogenization
 - 3.2.10 Recent methods
 - 3.2.10.1 Microwave irradiation
 - 3.2.10.2 Enzymatic processing
 - 3.2.10.3 Deep eutectic solvents (DESs)
 - 3.2.10.4 Pulsed electric field
 - 3.2.10.5 Electron beam irradiation
- 3.3 Applications of cellulose nanofibers
- 3.4 SWOT analysis
- 3.5 Commercial Production
 - 3.5.1 Cellulose nanofibers (CNF) production capacities 2022, in metric tons by producer
- 3.6 Pricing
- 3.7 Commercial CNF products

3.8 End use markets for cellulose nanofibers

3.8.1 Composites

3.8.1.1 Market overview

3.8.1.2 Applications

3.8.1.2.1 Automotive composites

3.8.1.2.2 Biocomposite films & packaging

3.8.1.2.3 Barrier packaging

3.8.1.2.4 Thermal insulation composites

3.8.1.2.5 Construction composites

3.8.1.3 Global market 2018-2034

3.8.1.3.1 Tons

3.8.1.3.2 Revenues

3.8.1.3.3 By Region

3.8.1.4 Product developers

3.8.2 Automotive

3.8.2.1 Market overview

3.8.2.2 Applications

3.8.2.2.1 Composites

3.8.2.2.2 Air intake components

3.8.2.2.3 Tires

3.8.2.3 Global market 2018-2034

3.8.2.3.1 Tons

3.8.2.3.2 Revenues

3.8.2.3.3 By Region

3.8.2.4 Product developers

3.8.3 Buildings and construction

3.8.3.1 Market overview

3.8.3.2 Applications

3.8.3.2.1 Sandwich composites

3.8.3.2.2 Cement additives

3.8.3.2.3 Pump primers

3.8.3.2.4 Thermal insulation and damping

3.8.3.3 Global market 2018-2034

3.8.3.3.1 Tons

3.8.3.3.2 Revenues

3.8.3.3.3 By region

3.8.3.4 Product developers

3.8.4 Paper and board packaging

3.8.4.1 Market overview

- 3.8.4.2 Applications
 - 3.8.4.2.1 Reinforcement and barrier
 - 3.8.4.2.2 Biodegradable food packaging foil and films
 - 3.8.4.2.3 Paperboard coatings
- 3.8.4.3 Global market 2018-2034
 - 3.8.4.3.1 Tons
 - 3.8.4.3.2 Revenues
 - 3.8.4.3.3 By region
- 3.8.4.4 Product developers
- 3.8.5 Textiles and apparel
 - 3.8.5.1 Market overview
 - 3.8.5.2 Applications
 - 3.8.5.2.1 CNF deodorizer and odour reducer (antimicrobial) in adult and child diapers
 - 3.8.5.2.2 Footwear
 - 3.8.5.3 Global market 2018-2034
 - 3.8.5.3.1 Tons
 - 3.8.5.3.2 Revenues
 - 3.8.5.3.3 By region
 - 3.8.5.4 Product developer profiles
- 3.8.6 Biomedicine and healthcare
 - 3.8.6.1 Market overview
 - 3.8.6.2 Applications
 - 3.8.6.2.1 Wound dressings
 - 3.8.6.2.2 Drug delivery stabilizers
 - 3.8.6.2.3 Tissue engineering scaffolds
 - 3.8.6.3 Global market 2018-2034
 - 3.8.6.3.1 Tons
 - 3.8.6.3.2 Revenues
 - 3.8.6.3.3 By region
 - 3.8.6.4 Product developers
- 3.8.7 Hygiene and sanitary products
 - 3.8.7.1 Market overview
 - 3.8.7.2 Applications
 - 3.8.7.3 Global market 2018-2034
 - 3.8.7.3.1 Tons
 - 3.8.7.3.2 Revenues
 - 3.8.7.3.3 By region
 - 3.8.7.4 Product developers

3.8.8 Paints and coatings

3.8.8.1 Market overview

3.8.8.2 Applications

3.8.8.3 Global market 2018-2034

3.8.8.3.1 Tons

3.8.8.3.2 Revenues

3.8.8.3.3 By region

3.8.8.4 Product developers

3.8.9 Aerogels

3.8.9.1 Market overview

3.8.9.2 Global market 2018-2034

3.8.9.2.1 Tons

3.8.9.2.2 Revenues

3.8.9.2.3 By region

3.8.9.3 Product developers

3.8.10 Oil and gas

3.8.10.1 Market overview

3.8.10.2 Applications

3.8.10.2.1 Oil recovery applications (fracturing fluid)

3.8.10.2.2 CNF Membranes for separation

3.8.10.2.3 Oil and gas fluids additives

3.8.10.3 Global market 2018-2034

3.8.10.3.1 Tons

3.8.10.3.2 Revenues

3.8.10.3.3 By region

3.8.10.4 Product developers

3.8.11 Filtration

3.8.11.1 Market overview

3.8.11.2 Applications

3.8.11.2.1 Membranes for selective absorption

3.8.11.3 Global market 2018-2034

3.8.11.3.1 Tons

3.8.11.3.2 Revenues

3.8.11.3.3 By region

3.8.11.4 Product developers

3.8.12 Rheology modifiers

3.8.12.1 Market overview

3.8.12.2 Applications

3.8.12.2.1 Food additives

- 3.8.12.2.2 Pickering stabilizers
- 3.8.12.2.3 Hydrogels
- 3.8.12.2.4 Cosmetics and skincare
- 3.8.12.3 Global market 2018-2034
 - 3.8.12.3.1 Tons
 - 3.8.12.3.2 Revenues
 - 3.8.12.3.3 By region
- 3.8.12.4 Product developers
- 3.8.13 Other markets
 - 3.8.13.1 Printed, stretchable and flexible electronics
 - 3.8.13.1.1 Market assessment
 - 3.8.13.1.2 Product developers
 - 3.8.13.2 3D printing
 - 3.8.13.2.1 Market assessment
 - 3.8.13.2.2 Product developers
 - 3.8.13.3 Aerospace
 - 3.8.13.3.1 Market assessment
 - 3.8.13.3.2 Product developers
 - 3.8.13.4 Batteries
 - 3.8.13.4.1 Market assessment
- 3.9 Cellulose nanofiber company profiles 328 (114 company profiles)

4 CELLULOSE NANOCRYSTALS

- 4.1 Introduction
- 4.2 Synthesis
- 4.3 Properties
- 4.4 Production
- 4.5 Pricing
- 4.6 SWOT analysis
- 4.7 Markets and applications
 - 4.7.1 Cellulose nanocrystals (CNC) production capacities 2022
 - 4.7.2 Markets and applications
 - 4.7.3 Global market 2018-2034
- 4.8 Cellulose nanocrystal company profiles 486 (21 company profiles)

5 BACTERIAL NANOCELLULOSE (BNC)

- 5.1 Overview

- 5.2 Production
- 5.3 Pricing
- 5.4 SWOT analysis
- 5.5 Applications
- 5.6 Bacterial nanocellulose (BNC) company profiles 526 (20 company profiles)

6 RESEARCH SCOPE AND METHODOLOGY

- 6.1 Report scope
- 6.2 Research methodology

7 REFERENCES

12. LIST OF TABLES

- Table 1. Length and diameter of nanocellulose and MFC.
- Table 2. Major polymers found in the extracellular covering of different algae.
- Table 3. Overview of cotton fibers-description, properties, drawbacks and applications.
- Table 4. Overview of kapok fibers-description, properties, drawbacks and applications.
- Table 5. Overview of luffa fibers-description, properties, drawbacks and applications.
- Table 6. Overview of jute fibers-description, properties, drawbacks and applications.
- Table 7. Overview of hemp fibers-description, properties, drawbacks and applications.
- Table 8. Overview of flax fibers-description, properties, drawbacks and applications.
- Table 9. Overview of ramie fibers-description, properties, drawbacks and applications.
- Table 10. Overview of kenaf fibers-description, properties, drawbacks and applications.
- Table 11. Overview of sisal fibers-description, properties, drawbacks and applications.
- Table 12. Overview of abaca fibers-description, properties, drawbacks and applications.
- Table 13. Overview of coir fibers-description, properties, drawbacks and applications.
- Table 14. Overview of banana fibers-description, properties, drawbacks and applications.
- Table 15. Overview of pineapple fibers-description, properties, drawbacks and applications.
- Table 16. Overview of rice fibers-description, properties, drawbacks and applications.
- Table 17. Overview of corn fibers-description, properties, drawbacks and applications.
- Table 18. Overview of switch grass fibers-description, properties and applications.
- Table 19. Overview of sugarcane fibers-description, properties, drawbacks and application and market size.
- Table 20. Overview of bamboo fibers-description, properties, drawbacks and

applications.

Table 21. Recycled cellulose fibers companies.

Table 22. Microfibrillated Cellulose (MFC) production capacities in metric tons and production process, by producer, metric tons.

Table 23. Commercially available Microfibrillated Cellulose products.

Table 24. Market overview for cellulose microfibrers (microfibrillated cellulose) in paperboard and packaging-market age, key benefits, applications and producers.

Table 25. Global demand for cellulose microfibrers (Microfibrillated Cellulose) in paper and packaging, 2018-2034 (tons).

Table 26. Global revenues for cellulose microfibrers (Microfibrillated Cellulose) in paper and packaging, 2018-2034 (millions USD).

Table 27. Revenues for cellulose microfibrers (Microfibrillated Cellulose) in paper and packaging, by region, 2018-2034 (millions USD).

Table 28. Market overview for cellulose microfibrers (microfibrillated cellulose) in textiles-market age, key benefits, applications and producers.

Table 29. Global demand for cellulose microfibrers (microfibrillated cellulose) in textiles, 2018-2034 (tons).

Table 30. Global revenues for cellulose microfibrers (microfibrillated cellulose) in textiles, 2018-2034 (millions USD).

Table 31. Revenues for cellulose microfibrers (microfibrillated cellulose) in textiles, by region, 2018-2034 (millions USD).

Table 32. Market overview for cellulose microfibrers (microfibrillated cellulose) in personal care-market age, key benefits, applications and producers.

Table 33. Global demand for Microfibrillated Cellulose in personal care, 2018-2034 (tons).

Table 34. Global revenues for Microfibrillated Cellulose in personal care, 2018-2034 (millions USD).

Table 35. Revenues for Microfibrillated Cellulose in personal care, by region, 2018-2034 (millions USD).

Table 36. Market overview for cellulose microfibrers (microfibrillated cellulose) in paints and coatings-market age, key benefits, applications and producers.

Table 37. Global demand for cellulose microfibrers (microfibrillated cellulose) in paints and coatings, 2018-2034 (tons).

Table 38. Global revenues for cellulose microfibrers (microfibrillated cellulose) in paints and coatings, 2018-2034 (millions USD).

Table 39. Revenues for cellulose microfibrers (microfibrillated cellulose) in paints and coatings, by region, 2018-2034 (millions USD).

Table 40. Other markets for Microfibrillated Cellulose.

Table 41. Properties of cellulose nanofibrils relative to metallic and polymeric materials.

Table 42. Extraction of nanocellulose (NC) from various lignocellulosic sources using different conventional technologies.

Table 43. Applications of cellulose nanofibers (CNF).

Table 44. Global demand for cellulose nanofibers/MFC by market in metric tons, 2018-2034.

Table 45. CNF production capacities (by type, wet or dry) and production process, by producer, metric tons.

Table 46: Product/price/application matrix of cellulose nanofiber producers.

Table 47. Cellulose nanofiber-based commercial products.*

Table 48. Comparative properties of polymer composites reinforcing materials.

Table 49. Market assessment for cellulose nanofibers in composites-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading, main global composites OEMs.

Table 50. Global market demand for cellulose nanofibers in composites, 2018-2034 (metric tons).

Table 51. Revenues for cellulose nanofibers in composites, 2018-2034 (millions USD).

Table 52. Revenues for cellulose nanofibers in composites, by region, 2018-2034 (millions USD).

Table 53. Companies developing cellulose nanofibers in composites.

Table 54. Market assessment for cellulose nanofibers in automotive-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading, main global automotive OEMs.

Table 55. Components featured in the NCV.

Table 56. Global market demand for cellulose nanofibers in the automotive sector, 2018-2034 (metric tons).

Table 57. Global market revenues for cellulose nanofibers in the automotive sector, 2018-2034 (metric tons).

Table 58. Market revenues for cellulose nanofibers in the automotive sector, by region, 2018-2034 (metric tons).

Table 59. Companies developing cellulose nanofibers products in the automotive industry.

Table 60. Market assessment for cellulose nanofibers in building and construction-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading, main global construction OEMs

Table 61: Market demand for cellulose nanofibers in building and construction, 2018-2034 (tons).

Table 62. Global market revenues for cellulose nanofibers in building and construction, 2018-2034 (millions USD).

Table 63. Market revenues for cellulose nanofibers in building and construction, by

region, 2018-2034 (millions USD).

Table 64. Companies developing cellulose nanofibers in building and construction.

Table 65. Oxygen permeability of nanocellulose films compared to those made from commercially available petroleum-based materials and other polymers.

Table 66. Market assessment for cellulose nanofibers in paper and board packaging-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading, main global paper and board packaging OEMs.

Table 67. Global demand for cellulose nanofibers in paper & board packaging market, 2018-2034 (tons).

Table 68. Global market revenues for cellulose nanofibers in the paper & board/packaging market, 2018-2034 (millions USD).

Table 69. Market revenues for cellulose nanofibers in the paper & board/packaging market, by region, 2018-2034 (millions USD).

Table 70. Companies developing cellulose nanofibers products in paper and board.

Table 71. Market assessment for cellulose nanofibers in textiles and apparel-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading, main global textiles and apparel OEMs.

Table 72. Demand for cellulose nanofibers in textiles, 2018-2034 (tons).

Table 73. Global market revenues for cellulose nanofibers in the textiles & apparel market, 2018-2034 (millions USD).

Table 74. Market revenues for cellulose nanofibers in the textiles & apparel market, by region, 2018-2034 (millions USD).

Table 75. Companies developing cellulose nanofibers products in textiles and apparel.

Table 76. Market assessment for nanocellulose in medicine and healthcare-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading, main global medicine and healthcare OEMs.

Table 77. Global demand for cellulose nanofibers in biomedical and healthcare, 2018-2034 (tons).

Table 78. Global market revenues for cellulose nanofibers in the biomedicine & healthcare market, 2018-2034 (millions USD).

Table 79. Market revenues for cellulose nanofibers in the biomedicine & healthcare market, by region, 2018-2034 (millions USD).

Table 80. Nanocellulose product developers in medicine and healthcare.

Table 81. Global demand for cellulose nanofibers in hygiene and absorbents, 2018-2034 (tons).

Table 82. Global market revenues for cellulose nanofibers in the hygiene & sanitary market, 2018-2034 (millions USD).

Table 83. Market revenues for cellulose nanofibers in the hygiene & sanitary market, by region, 2018-2034 (millions USD).

Table 84. Cellulose nanofibers product developers in hygiene and sanitary products.

Table 85. Market assessment for cellulose nanofibers in paints and coatings-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading, main global paints and coatings OEMs.

Table 86. Global demand for cellulose nanofibers in paint and coatings, 2018-2034 (tons).

Table 87. Global market revenues for cellulose nanofibers in the paints & coatings market, 2018-2034 (millions USD).

Table 88. Market revenues for cellulose nanofibers in the paints & coatings market, by region, 2018-2034 (millions USD).

Table 89. Companies developing nanocellulose products in paints and coatings, applications targeted and stage of commercialization.

Table 90. Market assessment for cellulose nanofibers in aerogels-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading, main global aerogels OEMs.

Table 91. Global demand for cellulose nanofibers in aerogels, 2018-2034 (tons).

Table 92. Global market revenues for cellulose nanofibers in the aerogels market, 2018-2034 (millions USD).

Table 93. Market revenues for cellulose nanofibers in the aerogels market, by region, 2018-2034 (millions USD).

Table 94. Nanocellulose in product developers in aerogels.

Table 95. Market assessment for cellulose nanofibers in oil and gas-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading, main global oil and gas OEMs.

Table 96. Global demand for cellulose nanofibers in the oil and gas market, 2018-2034 (tons).

Table 97. Global market revenues for cellulose nanofibers in the oil & gas market, 2018-2034 (millions USD).

Table 98. Market revenues for cellulose nanofibers in the oil & gas market, by region, 2018-2034 (millions USD).

Table 99. Cellulose nanofibers product developers in oil and gas exploration.

Table 100. CNF membranes.

Table 101. Market assessment for Cellulose nanofibers in filtration-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading, main global filtration OEMs.

Table 102. Global demand for Cellulose nanofibers in the filtration market, 2018-2034

(tons).

Table 103. Global market revenues for cellulose nanofibers in the filtration market, 2018-2034 (millions USD).

Table 104. Market revenues for cellulose nanofibers in the filtration market, by region, 2018-2034 (millions USD).

Table 105. Companies developing cellulose nanofibers products in filtration.

Table 106. Market assessment for cellulose nanofibers in rheology modifiers-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading, main global rheology modifier OEMs.

Table 107. Global demand for cellulose nanofibers in the rheology modifiers market, 2018-2034 (tons).

Table 108. Global market revenues for cellulose nanofibers in the rheology modifiers market, 2018-2034 (millions USD).

Table 109. Market revenues for cellulose nanofibers in the rheology modifiers market, by region, 2018-2034 (millions USD).

Table 110. Commercial activity in cellulose nanofibers in rheology modifiers.

Table 111. Properties of flexible electronics?cellulose nanofiber film (nanopaper).

Table 112. Market assessment for cellulose nanofibers in printed, stretchable and flexible electronics-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading, main global printed, flexible and stretchable electronics OEMs.

Table 113. Companies developing cellulose nanofibers products in printed, stretchable and flexible electronics.

Table 114. Market assessment for cellulose nanofibers in 3D printing-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading, main global 3D printing OEMs.

Table 115. Companies developing cellulose nanofibers 3D printing products.

Table 116. Market assessment for cellulose nanofibers in aerospace-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks, competing materials, material loading.

Table 117: Companies developing cellulose nanofibers products in aircraft and aerospace.

Table 118. Market assessment for cellulose nanofibers in Batteries-application, key benefits and motivation for use, megatrends, market drivers, technology drawbacks.

Table 119: Granbio Nanocellulose Processes.

Table 120. Nippon Paper commercial CNF products.

Table 121. Oji Holdings CNF products.

Table 122. Synthesis methods for cellulose nanocrystals (CNC).

Table 123. CNC sources, size and yield.

Table 124. CNC properties.

Table 125. Mechanical properties of CNC and other reinforcement materials.

Table 126. Product/price/application matrix of cellulose nanocrystal producers.

Table 127: Cellulose nanocrystal capacities (by type, wet or dry) and production process, by producer, metric tons.

Table 128. Markets and applications of cellulose nanocrystals.

Table 129. Global demand for cellulose nanocrystals by market, 2018-2034 (metric tons).

Table 130: Product/price/application matrix of bacterial nanocellulose producers.

Table 131. Applications of bacterial nanocellulose (BNC).

Table 132. Fibnano properties.

12. LIST OF FIGURES

Figure 1. Schematic diagram of partial molecular structure of cellulose chain with numbering for carbon atoms and n = number of cellobiose repeating unit.

Figure 2. Scale of cellulose materials.

Figure 3. Organization and morphology of cellulose synthesizing terminal complexes (TCs) in different organisms.

Figure 4. Biosynthesis of (a) wood cellulose (b) tunicate cellulose and (c) BC.

Figure 5. Cellulose microfibrils and nanofibrils.

Figure 6. SEM image of microfibrillated cellulose.

Figure 7. Cotton production volume 2018-2034 (Million MT).

Figure 8. Kapok production volume 2018-2034 (MT).

Figure 9. Luffa cylindrica fiber.

Figure 10. Jute production volume 2018-2034 (Million MT).

Figure 11. Hemp fiber production volume 2018-2034 (MT).

Figure 12. Flax fiber production volume 2018-2034 (MT).

Figure 13. Ramie fiber production volume 2018-2034 (MT).

Figure 14. Kenaf fiber production volume 2018-2034 (MT).

Figure 15. Sisal fiber production volume 2018-2034 (MT).

Figure 16. Abaca fiber production volume 2018-2034 (MT).

Figure 17. Coir fiber production volume 2018-2034 (million MT).

Figure 18. Banana fiber production volume 2018-2034 (MT).

Figure 19. Pineapple fiber.

Figure 20. A bag made with pineapple biomaterial from the H&M Conscious Collection 2019.

Figure 21. Bamboo fiber production volume 2018-2034 (MILLION MT).

Figure 22. Global market demand for Microfibrillated Cellulose (MFC). 2018-2034

(tons).

Figure 23. Supply chain for the Microfibrillated Cellulose market.

Figure 24. SWOT analysis: Microfibrillated Cellulose market.

Figure 25. Global demand for Microfibrillated Cellulose in paper and packaging, 2018-2034 (tons).

Figure 26. Global demand for Microfibrillated Cellulose in paper and packaging, 2018-2034 (millions USD).

Figure 27. Revenues for cellulose microfibrers (Microfibrillated Cellulose) in paper and packaging, by region, 2018-2034 (millions USD).

Figure 28. Global demand for Microfibrillated Cellulose in textiles, 2018-2034 (tons).

Figure 29. Global revenues for Microfibrillated Cellulose in textiles, 2018-2034 (millions USD).

Figure 30. Revenues for cellulose microfibrers (microfibrillated cellulose) in textiles, by region, 2018-2034 (millions USD).

Figure 31. Global demand for cellulose nanofibers in personal care, 2018-2034 (tons).

Figure 32. Global revenues for cellulose nanofibers in personal care, 2018-2034 (millions USD).

Figure 33. Revenues for Microfibrillated Cellulose in personal care, by region, 2018-2034 (millions USD).

Figure 34. Global demand for cellulose microfibrers (microfibrillated cellulose) in paints and coatings, 2018-2034 (tons).

Figure 35. Global revenues for cellulose microfibrers (microfibrillated cellulose) in paints and coatings, 2018-2034 (millions USD).

Figure 36. Revenues for cellulose microfibrers (microfibrillated cellulose) in paints and coatings, by region, 2018-2034 (millions USD).

Figure 37. Pressurized Hot Water Extraction.

Figure 38. Celish.

Figure 39. BELLOCEA™

Figure 40. Photograph (a) and micrograph (b) of mineral/ MFC composite showing the high viscosity and fibrillar structure.

Figure 41. Water-repellent cellulose.

Figure 42. HeiQ AeoniQ .

Figure 43. BioFlex process.

Figure 44. A vacuum cleaner part made of cellulose fiber (left) and the assembled vacuum cleaner.

Figure 45: Innventia AB movable nanocellulose demo plant.

Figure 46. 3D printed cellulose shoe.

Figure 47. Lyocell process.

Figure 48. Thales packaging incorporating Fibrease.

Figure 49. HefCel-coated wood (left) and untreated wood (right) after 30 seconds flame test.

Figure 50. Worn Again products.

Figure 51. Nanocellulose preparation methods and resulting materials.

Figure 52. Production of nanocellulose from lignocellulosic biomass using enzymatic treatment (endoglucanases and xylanases) followed by mechanical treatment.

Figure 53. EBI pretreatment combined with HPH for CNC production.

Figure 54. SWOT analysis: Cellulose nanofibers market.

Figure 55. Global demand for cellulose nanofibers/MFC in metric tons by market, 2018-2034.

Figure 56. Aruba 23.

Figure 57. Dorayaki.

Figure 58. ENASAVE NEXT.

Figure 59. Flat4-KAEDE.

Figure 60. GEL-KAYANO™.

Figure 61. Hada care acty®.

Figure 62. Hiteeth All in One Mouth Gel.

Figure 63. HYPERNANO X series.

Figure 64. Kirekira! toilet wipes.

Figure 65. ONKYO® Scepter SC-3(B) 2-way Speaker System.

Figure 66. Pioneer® SE-MONITOR5 Headphones.

Figure 67. 'Poise' series Super strong deodorant sheet.

Figure 68. RUBURI Precursor Lubris for raw concrete pumping.

Figure 69. SC-3 (B) speakers.

Figure 70. SE-MONITOR5 headphones.

Figure 71. 'Skin Care Acty' series Adult diapers.

Figure 72. Spingle Company sneakers.

Figure 73. 'SURISURI' Lotion.

Figure 74. X9400 series.

Figure 75. X Premium Sound Speaker Alps Alpine.

Figure 76. Applications of cellulose nanofibers in composites.

Figure 77. Global market demand for cellulose nanofibers in composites, 2018-2034 (metric tons).

Figure 78. Revenues for cellulose nanofibers in composites, 2018-2034 (millions USD).

Figure 79. Revenues for cellulose nanofibers in composites, by region, 2018-2034 (millions USD).

Figure 80. CNF mixed PLA (Poly Lactic Acid).

Figure 81. CNF resin products.

Figure 82. Interior of NCV concept car.

Figure 83. Applications of cellulose nanofibers in automotive.

Figure 84. Interior of the NCV prototype.

Figure 85. Global market demand for cellulose nanofibers in the automotive sector, 2018-2034 (metric tons).

Figure 86. Global market revenues for cellulose nanofibers in the automotive sector, 2018-2034 (metric tons).

Figure 87. Market revenues for cellulose nanofibers in the automotive sector, by region, 2018-2034 (metric tons).

Figure 88: Daio Paper's cellulose nanofiber material in doors and hood of race car.

Figure 89: CNF composite.

Figure 90: Engine cover utilizing Kao CNF composite resins.

Figure 91. CNF car engine cover developed in Japan Ministry of the Environment's (MOE) Nano Cellulose Vehicle (NCV) Project.

Figure 92. Comparison of nanofillers with supplementary cementitious materials and aggregates in concrete.

Figure 93. Applications of cellulose nanofibers in building and construction.

Figure 94. Demand for cellulose nanofibers in construction, 2018-2034 (tons).

Figure 95. Global market revenues for cellulose nanofibers in building and construction, 2018-2034 (millions USD).

Figure 96. Market revenues for cellulose nanofibers in building and construction, by region, 2018-2034 (millions USD).

Figure 97. Applications of cellulose nanofibers in paper and board packaging.

Figure 98. Global demand for cellulose nanofibers in the paper & board/packaging market, 2018-2034 (tons).

Figure 99. Global market revenues for cellulose nanofibers in the paper & board/packaging market, 2018-2034 (millions USD).

Figure 100. Market revenues for cellulose nanofibers in the paper & board/packaging market, by region, 2018-2034 (millions USD).

Figure 101. Applications of cellulose nanofibers in textiles and apparel.

Figure 102. Asics GEL-KAYANO™ 25 running shoe.

Figure 103. Demand for cellulose nanofibers in the textiles sector, 2018-2034 (tons).

Figure 104. Global market revenues for cellulose nanofibers in the textiles & apparel market, 2018-2034 (millions USD).

Figure 105. Market revenues for cellulose nanofibers in the textiles & apparel market, by region, 2018-2034 (millions USD).

Figure 106. CNF deodorant products.

Figure 107. Applications of cellulose nanofibers in medicine and healthcare.

Figure 108. Global demand for cellulose nanofibers in biomedical and healthcare, 2018-2034 (tons).

Figure 109. Global market revenues for cellulose nanofibers in the biomedicine & healthcare market, 2018-2034 (millions USD).

Figure 110. Market revenues for cellulose nanofibers in the biomedicine & healthcare market, by region, 2018-2034 (millions USD).

Figure 111. Fibnano.

Figure 112. Global demand for cellulose nanofibers in hygiene and absorbents, 2018-2034 (tons).

Figure 113. Global market revenues for cellulose nanofibers in the hygiene & sanitary market, 2018-2034 (millions USD).

Figure 114. Market revenues for cellulose nanofibers in the paper & board/packaging market, by region, 2018-2034 (millions USD).

Figure 115. Applications of cellulose nanofibers in paints and coatings.

Figure 116. Global demand for cellulose nanofibers in paint and coatings, 2018-2034 (tons).

Figure 117. Global market revenues for cellulose nanofibers in the paints & coatings market, 2018-2034 (millions USD).

Figure 118. Market revenues for cellulose nanofibers in the paints & coatings market, by region, 2018-2034 (millions USD).

Figure 119. Hefcel-coated wood (left) and untreated wood (right) after 30 seconds flame test.

Figure 120: Global demand for nanocellulose in in aerogels, 2018-2034 (tons).

Figure 121. Global market revenues for cellulose nanofibers in the aerogels market, 2018-2034 (millions USD).

Figure 122. Market revenues for cellulose nanofibers in the aerogelsmarket, by region, 2018-2034 (millions USD).

Figure 123. Global demand for cellulose nanofibers in the oil and gas market, 2018-2034 (tons).

Figure 124. Global market revenues for cellulose nanofibers in oil & gas market, 2018-2034 (millions USD).

Figure 125. Market revenues for cellulose nanofibers in the oil & gas market, by region, 2018-2034 (millions USD).

Figure 126. Nanocellulose sponge developed by EMPA for potential applications in oil recovery.

Figure 127. Applications of Cellulose nanofibers in filtration.

Figure 128. Global demand for Cellulose nanofibers in the filtration market, 2018-2034 (tons).

Figure 129. Global market revenues for cellulose nanofibers in the filtration market, 2018-2034 (millions USD).

Figure 130. Market revenues for cellulose nanofibers in the filtration packaging market,

by region, 2018-2034 (millions USD).

Figure 131. Multi-layered cross section of CNF-nw.

Figure 132. Applications of cellulose nanofibers in rheology modifiers.

Figure 133. Global demand for cellulose nanofibers in the rheology modifiers market, 2018-2034 (tons).

Figure 134. Global market revenues for cellulose nanofibers in the rheology modifiers market, 2018-2034 (millions USD).

Figure 135. Market revenues for cellulose nanofibers in the rheology modifiers market, by region, 2018-2034 (millions USD).

Figure 136. 'SURISURI' products.

Figure 137. Foldable nanopaper antenna.

Figure 138: Flexible electronic substrate made from CNF.

Figure 139. Oji CNF transparent sheets.

Figure 140. Electronic components using NFC as insulating materials.

Figure 141: Anpoly cellulose nanofiber hydrogel.

Figure 142. MEDICELLU™.

Figure 143: Ashai Kasei CNF production process.

Figure 144: Asahi Kasei CNF fabric sheet.

Figure 145: Properties of Asahi Kasei cellulose nanofiber nonwoven fabric.

Figure 146. CNF nonwoven fabric.

Figure 147. Celfion membrane.

Figure 148. nanoforest products.

Figure 149. Chuetsu Pulp & Paper CNF production process.

Figure 150. nanoforest-S.

Figure 151. nanoforest-PDP.

Figure 152. nanoforest-MB.

Figure 153: Trunk lid incorporating CNF.

Figure 154. Daio Paper CNF production process.

Figure 155. ELLEX products.

Figure 156. CNF-reinforced PP compounds.

Figure 157. Kirekira! toilet wipes.

Figure 158. Color CNF.

Figure 159. DIC Products CNF production process.

Figure 160. DKS Co. Ltd. CNF production process.

Figure 161: Rheocrysta spray.

Figure 162. DKS CNF products.

Figure 163: CNF based on citrus peel.

Figure 164. Citrus cellulose nanofiber.

Figure 165. Filler Bank CNC products.

- Figure 166: Cellulose Nanofiber (CNF) composite with polyethylene (PE).
- Figure 167: CNF products from Furukawa Electric.
- Figure 168: Granbio CNF production process.
- Figure 169: Cutlery samples (spoon, knife, fork) made of nano cellulose and biodegradable plastic composite materials.
- Figure 170: Non-aqueous CNF dispersion 'Senaf' (Photo shows 5% of plasticizer).
- Figure 171: CNF gel.
- Figure 172: Block nanocellulose material.
- Figure 173: CNF products developed by Hokuetsu.
- Figure 174: Kami Shoji CNF products.
- Figure 175: Dual Graft System.
- Figure 176: Engine cover utilizing Kao CNF composite resins.
- Figure 177: Acrylic resin blended with modified CNF (fluid) and its molded product (transparent film), and image obtained with AFM (CNF 10wt% blended).
- Figure 178: 0.3% aqueous dispersion of sulfated esterified CNF and dried transparent film (front side).
- Figure 179: CNF deodorant.
- Figure 180: Chitin nanofiber product.
- Figure 181: Marusumi Paper cellulose nanofiber products.
- Figure 182: FibriMa cellulose nanofiber powder.
- Figure 183: Cellulomix production process.
- Figure 184: Nanobase versus conventional products.
- Figure 185: Uni-ball Signo UMN-307.
- Figure 186: CNF slurries.
- Figure 187: Range of CNF products.
- Figure 188: Nanocell serum product.
- Figure 189: Vatensel® product
- Figure 190: Hydrophobization facilities for raw pulp.
- Figure 191: Mixing facilities for CNF-reinforced plastic.
- Figure 192: Nippon Paper CNF production process.
- Figure 193: Nippon Paper Industries' adult diapers.
- Figure 194: All-resin forceps incorporating CNF.
- Figure 195: CNF paint product.
- Figure 196: CNF wet powder.
- Figure 197: CNF transparent film.
- Figure 198: Transparent CNF sheets.
- Figure 199: Oji Paper CNF production process.
- Figure 200: CNF clear sheets.
- Figure 201: Oji Holdings CNF polycarbonate product.

- Figure 202. Fluorene cellulose ® powder.
- Figure 203. Performance Biofilaments CNF production process.
- Figure 204. XCNF.
- Figure 205. CNF insulation flat plates.
- Figure 206. Seiko PMC CNF production process.
- Figure 207. Manufacturing process for STARCEL.
- Figure 208. Rubber soles incorporating CNF.
- Figure 209. CNF dispersion and powder from Starlite.
- Figure 210. Sugino Machine CNF production process.
- Figure 211. High Pressure Water Jet Process.
- Figure 212. 2 wt.% CNF suspension.
- Figure 213. BiNF-i-s Dry Powder.
- Figure 214. BiNF-i-s Dry Powder and Propylene (PP) Complex Pellet.
- Figure 215. Silk nanofiber (right) and cocoon of raw material.
- Figure 216. SVELOSA AD CNC products.
- Figure 217. Silver / CNF composite dispersions.
- Figure 218. CNF/nanosilver powder.
- Figure 219: Comparison of weight reduction effect using CNF.
- Figure 220: CNF resin products.
- Figure 221. University of Maine CNF production process.
- Figure 222. UPM-Kymmene CNF production process.
- Figure 223. FibDex® wound dressing.
- Figure 224. US Forest Service Products Laboratory CNF production process.
- Figure 225: Flexible electronic substrate made from CNF.
- Figure 226. S-CNF in powder form.
- Figure 227. TEM image of cellulose nanocrystals.
- Figure 228. CNC preparation.
- Figure 229. Extracting CNC from trees.
- Figure 230. SWOT analysis: Cellulose nanocrystals market.
- Figure 231. CNC slurry.
- Figure 232. Global demand for cellulose nanocrystals by market, 2018-2034 (metric tons).
- Figure 233. R3TM process technology.
- Figure 234. Blue Goose CNC Production Process.
- Figure 235: Celluforce production process.
- Figure 236: NCCTM Process.
- Figure 237: CNC produced at Tech Futures' pilot plant; cloudy suspension (1 wt.%), gel-like (10 wt.%), flake-like crystals, and very fine powder. Product advantages include:
- Figure 238. Filler Bank CNC products.

Figure 239. Melodea CNC barrier coating packaging.

Figure 240. Plantrose process.

Figure 241. CNC solution.

Figure 242. University of Maine CNF production process.

Figure 243. US Forest Service Products Laboratory CNF production process.

Figure 244. Bacterial nanocellulose shapes

Figure 245. SWOT analysis: Bacterial Nanocellulose market.

Figure 246. Jelly-like seaweed-based nanocellulose hydrogel.

Figure 247. Cellugy materials.

Figure 248: Bacterial cellulose face mask sheet.

Figure 249. TransLeather.

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