

# Nanocellulose Technology: Market Research Report

https://marketpublishers.com/r/N68F13D8397EN.html

Date: January 2015

Pages: 109

Price: US\$ 4,500.00 (Single User License)

ID: N68F13D8397EN

## **Abstracts**

This report analyzes the worldwide markets for Nanocellulose Technology in US\$
Thousand. The Global market is further analyzed by the following Product Types:
Cellulose Nanofibrils, and Cellulose Nanocrystals. The report provides separate comprehensive analytics for the US, Japan, Europe, and Rest of World. Annual estimates and forecasts are provided for the period 2014 through 2020. Market data and analytics are derived from primary and secondary research. Company profiles are primarily based on public domain information including company URLs. The report profiles 28 companies including many key and niche players such as -

Asahi Kasei Corporation

AmericanProcess, Inc.

CelluComp Ltd.

CelluForce

**Daicel Corporation** 



## **Contents**

## I. INTRODUCTION, METHODOLOGY & PRODUCT DEFINITIONS

Study Reliability and Reporting Limitations
Disclaimers
Data Interpretation & Reporting Level
Quantitative Techniques & Analytics
Product Definitions and Scope of Study
Cellulose Nanofibrils
Cellulose Nanocrystals

## II. EXECUTIVE SUMMARY

## 1. INDUSTRY OVERVIEW

A Prelude
Key Characteristics of Nanocellulose
Select Features of CNC and CNF

## Table 1. Stiffness of Nanocellulose Vis-à-vis Other Alternatives

Nanocellulose Market – On a Growth Trajectory
Present Commercialization Stages
The Road to Nanocellulose Commercialization
Nanocellulose Potential Applications
Select Potential Applications of Nanocellulose
Commercialization Stages for High Volume Nanocellulose Applications (as of March 2015)

**Table 2.** World Nanocellulose Market Potential by End-use Application: Percentage Share Breakdown of Volume Consumption for Adhesives, Cement, Excipients, Films and Barriers, Manufactured Textiles, Natural Fiber Composites, Natural Textiles, Non-wovens, Oil & Gas, Paints and coatings, Paper and paperboard, and Others (includes corresponding Graph/Chart)

Commercialization Stages for Emerging Nanocellulose Applications as of March 2015



An Overview of Select Applications

Automotive/Aerospace

Construction

Food Packaging

Specialty Paper

Polymer Reinforcement

Pharmaceutical

Others

CNF - The Largest NanoCellulose Type

Select CNF Manufacturers and their Production Status

CNC: Fastest Growing Nanocellulose Type

**Table 3.** Illustrations of CNC Derived from Various Sources through Sulfuric Acid Hydrolysis

Geographic Landscape

Market Restraints

Large-Scale Production Capacities to Promote Nanocellulose Adoption

## 2. MARKET SEGMENTS

NCC – The Cellulosic Nanomaterial with Most Promising Applications

Potential for CNC and CNF in Select Applications

Select CNC Applications

Select Research Efforts in CNC Applications

Paints and Coatings

**Consumer Products** 

Papermaking

**Textiles** 

**Transportation Materials** 

Oil & Gas Drilling Fluids

Drug Delivery – An Important Future Application for NCC

Tissue Engineering – A Potential Opportunity for Cellulose Nanocrystals

CNF Dominates Market with a Wide Range of Application Potential

**CNF** Aerogels

**CNF-Based Nanocomposites** 

**CNF-Based Bioactive Materials** 

Select Applications of CNF Based Bioactive Materials



Cellulose Nanofibril Hybrids
CNF - A High-Value Co-Product in Ethanol Production

**Table 4.** Average Biofuel Yields of First Generation Feedstocks (includes corresponding Graph/Chart)

**Global Biofuel Blending Targets** 

## 3. NOTEWORTHY TRENDS, DRIVERS & CHALLENGES

Growing Interest in Nanocellulose Fuels Research Efforts
Sugarcane Bagasse in Nanocellulose Production
Emerging Applications to Spur Growth
High Strength Body Armor
Light-Weight, Fuel-Effective Vehicles
Medical Applications
Advanced Battery Systems
Flexible Electronic Displays
Focus on Sustainable, Eco-Friendly Alternatives to Chemicals Promote Nanocellulose
Technology

**Table 5.** Global Greenhouse Gas Emissions by Source: 2015 (includes corresponding Graph/Chart)

**Table 6.** Carbon Dioxide Emissions by Source: 2015 (includes corresponding Graph/Chart)

Emission Regulations Landscape in Major Country/Region
Partnerships, Collaborations, Funding - Vital for Promoting Research in Nanocellulose
Rapid Increase in Patenting Activity Suggests Market Potential

**Table 7.** Leading Nations with Nanocellulose Patent Applications in the USPTO - Percentage Breakdown of Number of Applications for EPO (Europe), India, Japan, Sweden, US, and Others (includes corresponding Graph/Chart)

**Table 8.** US and World Nanocellulose Patenting Trends for the Years 2007-2010



(includes corresponding Graph/Chart)

**Table 9.** Select Companies with Nanocellulose Patents (includes corresponding Graph/Chart)

Non-Toxicity to Drive Market for Nanocellulose Products
Select Toxicological Evaluations of CNC and CNF
Nanocellulose – A Green Alternative for Petroleum based Plastic
Growth in Nanocoatings Augurs Well for Nanocellulose Technology

## 4. PRODUCT INNOVATIONS

University of Wisconsin-Madison Designs CNF Based, Green Semiconductor Chips Cerealus Holdings LLC Develops New Nanocellulose-based Additives Nanocellulose-based Sponge to Help Clean-up Oil Spills Sichuan University Scientists Develop Light-Emitting Nanocellulose Paper

## 5. RECENT INDUSTRY ACTIVITY

Evonik Acquires Stake in JeNaCell

MoRe, SP Technical Research Institute & Holmen to Set Up NanoCrystalline Cellulose Facility

Oak Ridge National Laboratory Partners American Process Inc.

Axcelon Signs Distribution Deal with The Stevens Company

Sappi to Set Up First CNF Facility

Innventia to Set up Nanocellulose Mobile Demo Plant for Paper Board

American Process Inc. Partners Futuris Automotive to Use Nanocellulose Composites in Automotive Components

## 6. FOCUS ON SELECT GLOBAL PLAYERS

Asahi Kasei Corporation (Japan)

AmericanProcess, Inc. (US)

CelluComp Ltd. (Scotland)

CelluForce (Canada)

Daicel Corporation (Japan)

Essential Dynamics Inc. (US)

FPInnovations (Canada)

Innventia AB (Sweden)



Imerys (France)
Nippon Paper Industries Co., Ltd. (Japan)
Stora Enso Oyj (Finland)
UPM (Finland)
VTT Group (Finland)

## 7. GLOBAL MARKET PERSPECTIVE

**Table 10.** World Recent Past, Current and Future Analysis for Nanocellulose Technology by Geographic Region/Country - US, Japan, Europe, and Rest of World Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2014 through 2020 (includes corresponding Graph/Chart)

**Table 11.** World 6-Year Perspective for Nanocellulose Technology by Geographic Region/Country - Percentage Breakdown of Revenue for US, Japan, Europe, and Rest of World Markets for Years 2015 and 2020 (includes corresponding Graph/Chart)

**Table 12.** World Recent Past, Current and Future Analysis for Nanocellulose Technology by Type - Cellulose Nanofibrils (CNF) and Cellulose Nanocrystals (CNC) Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2014 through 2020 (includes corresponding Graph/Chart)

**Table 13.** World 6-Year Perspective for Nanocellulose Technology by Type - Percentage Breakdown of Revenue for Cellulose Nanofibrils (CNF) and Cellulose Nanocrystals (CNC) Markets for Years 2015 and 2020 (includes corresponding Graph/Chart)

#### III. MARKET

## 1. THE UNITED STATES

A. Market Analysis

Cellulose Nanomaterials – The Current Scenario

The Paper Industry in Georgia Set to Benefit from Nanocellulose

Strategic Corporate Development

Key Players

B. Market Analytics



**Table 14.** The US Recent Past, Current and Future Analysis for Nanocellulose Technology Market Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2014 through 2020 (includes corresponding Graph/Chart)

## 2. JAPAN

A. Market AnalysisIndustry Leaders and Government Join Forces to Promote NanocelluloseKey PlayersB. Market Analytics

**Table 15.** Japanese Recent Past, Current and Future Analysis for Nanocellulose Technology Market Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2014 through 2020 (includes corresponding Graph/Chart)

## 3. EUROPE

A. Market Analysis
Europe Gains Pilot CNC Production Unit
Strategic Corporate Developments
Select Key Players
B. Market Analytics

**Table 16.** European Recent Past, Current and Future Analysis for Nanocellulose Technology Market Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2014 through 2020 (includes corresponding Graph/Chart)

## 4. REST OF WORLD

A. Market AnalysisCanada – An Overview

**Table 17.** Annual Nanocellulose Production Capacity by Select Canadian Companies (includes corresponding Graph/Chart)



Strategic Corporate Developments Key Players B. Market Analytics

**Table 18.** Rest of World Recent Past, Current and Future Analysis for Nanocellulose Technology Market Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2014 through 2020 (includes corresponding Graph/Chart)

## IV. COMPETITIVE LANDSCAPE

Total Companies Profiled: 28 (including Divisions/Subsidiaries - 29)
The United States (7)
Canada (4)
Japan (4)
Europe (11)
Germany (1)
The United Kingdom (1)
Rest of Europe (9)
Asia-Pacific (Excluding Japan) (2)
Africa (1)



## I would like to order

Product name: Nanocellulose Technology: Market Research Report
Product link: <a href="https://marketpublishers.com/r/N68F13D8397EN.html">https://marketpublishers.com/r/N68F13D8397EN.html</a>

Price: US\$ 4,500.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer

Service:

info@marketpublishers.com

## **Payment**

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <a href="https://marketpublishers.com/r/N68F13D8397EN.html">https://marketpublishers.com/r/N68F13D8397EN.html</a>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:	
Last name:	
Email:	
Company:	
Address:	
City:	
Zip code:	
Country:	
Tel:	
Fax:	
Your message:	
	**All fields are required
	Custumer signature

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <a href="https://marketpublishers.com/docs/terms.html">https://marketpublishers.com/docs/terms.html</a>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970