

# Nanotextiles: Opportunities and Global Markets

https://marketpublishers.com/r/NC2B955FB00EN.html

Date: May 2019

Pages: 152

Price: US\$ 2,750.00 (Single User License)

ID: NC2B955FB00EN

### **Abstracts**

#### **REPORT SCOPE:**

This report provides an updated review of nanotextile technology, including materials and production processes, and identifies current and emerging applications for this technology.

BCC Research delineates the current market status for these products, defines trends, and presents growth forecasts for the next five years. The market is analyzed based on the following segments: nanotextile type, functionality, nanostructured material, application, and region. In addition, technological issues, including key events and the latest developments, are discussed.

More specifically, the market analysis conducted by BCC Research for this report is divided into five sections.

In the first section, an introduction to the topic and a historical review of nanotextiles are provided, including an outline of recent events. In this section, current and emerging applications are also identified and grouped in segments (apparel, technical, household, and other consumer products).

The second section provides a technological review of nanotextiles. This section offers a detailed description of materials used for production of nanofabrics, properties of nanotextiles, and typical fabrication methods. This section concludes with an analysis of the most important technological developments since 2016, including examples of significant patents recently issued or applied for. The chapter ends with a highlight of the most active research organizations operating in this field and their activities.

The third section entails a global market analysis for nanotextiles. Global revenues

Nanotextiles: Opportunities and Global Markets



(sales data in millions of dollars) are presented for each segment (nanotextile type, functionality, nanostructured material, application, and region), with actual data referring to the years 2017 and 2018 and estimates for 2019. Dollar figures refer to sales of these products at the manufacturing level.

The analysis of current revenues for nanotextiles is followed by a detailed presentation of market growth trends, based on industry growth, technological trends, and regional trends. The third section concludes by providing projected revenues for nanotextiles within each segment, together with forecast compound annual growth rates (CAGRs) for the period 2019 through 2024. Projected and forecast revenue values are in constant U.S. dollars, unadjusted for inflation.

In the fourth section of the study, which covers global industry structure, the report offers a list of the leading manufacturers of nanotextiles, together with a description of their products. The analysis includes a description of the geographical distribution of these firms and an evaluation of other key industry players. Detailed company profiles of the top players are also provided.

The fifth and final section includes an analysis of recently issued U.S. patents, with a summary of patents related to nanotextile materials, fabrication methods, and applications. Patent analysis is performed by region, country, assignee, patent category, application, and material type.

#### **REPORT INCLUDES:**

55 data tables and 29 additional tables

Detailed overview and industry analysis of nanotextiles and their global market

Analyses of global market trends with data from 2017, 2018, estimates for 2019 and projections of compound annual growth rates (CAGRs) through 2024

Segmentation of the global nanotextiles market by product type, fabrication technology, application, end use industry and geographical region

Identification of the fastest-growing applications and technologies, and a holistic overview of the current and future market trends which will lead to increasing demand for nanotextiles production



An extensive U.S. analysis of recently issued patents, with a summary of patents related to various types of nanotextiles and their fabrication methods and applications

Description of the geographical distribution of manufacturers and detailed company profiles of the top industry players including Donaldson, eSpin Technologies, Finetex EnE, Nano-Textile and Parker Hannifin



## **Contents**

#### **CHAPTER 1 INTRODUCTION**

Study Goals and Objectives
Reasons for Doing This Study
Intended Audience
Scope of Report
Methodology and Information Sources
Market Breakdown
Analyst's Credentials
BCC Custom Research
Related BCC Research Reports

#### **CHAPTER 2 SUMMARY AND HIGHLIGHTS**

#### **CHAPTER 3 MARKET AND TECHNOLOGY BACKGROUND**

Nanomaterials and Nanotextiles

The Nanotechnology Industry

Milestones in the History of Nanotechnology and Nanotextiles and Recent Events

Current and Emerging Applications for Nanotextiles

Apparel

Technical

Household

Other Consumer Products

#### **CHAPTER 4 TECHNOLOGY**

Introduction

Materials for Nanotextiles

**Nanofibers** 

Nanoparticles and Other Nanostructures

Nanoporosity

Properties of Nanotextiles

**Production Methods for Nanotextiles** 

Nanotextiles Based on Nanofibers

**Nanocoatings** 

Incorporation of Nanomaterials

Nanotextiles: Opportunities and Global Markets



Creation of Nanoporosity

Latest Technological Developments, 2016 to Present

Nonwoven Textile for Wound Dressings Based on Fibroin Nanofibers

Film Fiberizing Spinning

Textiles Coated with Boron Nanoparticles

Protective Clothing Based on Carbon Nanofibers

Other Relevant R&D Activities

#### **CHAPTER 5 GLOBAL MARKETS**

**Analysis Outline** 

Global Market Summary

**Current Market Status** 

Market, by Type

Market, by Functionality

Market, by Nanostructured Material

Market, by Application

Market, by Region

Market Growth Trends

Apparel

**Technical Textiles** 

Household

Others

**Technological Trends** 

Regional Trends

Market Forecast

Market, by Type

Market, by Functionality

Market, by Nanostructured Material

Market, by Application

Market, by Region

#### **CHAPTER 6 GLOBAL INDUSTRY STRUCTURE AND COMPANY PROFILES**

Leading Suppliers of Nanotextiles

Distribution of Leading Suppliers, by Technology Type and Region/Country

Other Industry Players

**Company Profiles** 

**ASAHI KASEI** 

Nanotextiles: Opportunities and Global Markets



DOGI

**DONALDSON** 

**ERMENEGILDO ZEGNA** 

**ESPIN TECHNOLOGIES** 

**EVEREST TEXTILE** 

FINETEX ENE

HEIQ MATERIALS

**HOLLINGSWORTH & VOSE** 

JAPAN VILENE

**NANOPOOL** 

**NANOTEX** 

NANO-TEXTILE

NIPPON PAPER INDUSTRIES

**ORGANOGENESIS** 

PARKER HANNIFIN

STELLENBOSCH NANOFIBERS

**TEIJIN** 

TORAY INDUSTRIES

XANOFI

#### **CHAPTER 7 PATENT ANALYSIS**

Introduction

Summary of Recently Awarded Patents

**General Trends** 

Trends, by Country and Region

Trends, by Assignee

Trends, by Patent Category

Trends, by Nanostructured Material

Trends, by Application



## **List Of Tables**

#### LIST OF TABLES

Summary Table: Global Market for Nanotextiles, by Application, Through 2024

Table 1: Technologies Used to Manufacture Nanotextiles

Table 2: Global Market for Textiles, by Type, Through 2024

Table 3: The Nanotechnology Industry, 2019

Table 4: Global Market for Nanotechnology, by Type, Through 2024

Table 5: Technological Milestones for Nanotechnology and Nanotextiles

Table 6: Global Patent Applications and Patent Issued for Nanotextiles, 1990-2018

Table 7: Nanotextile Applications in the Apparel Industry, 2019

Table 8: Nanotextile Applications in the Life Science Sector, 2019

Table 9: Nanotextile Applications in the Mechanical/Chemical/Environmental Sector, 2019

Table 10: Nanotextile Applications in the Energy Sector, 2019

Table 11: Nanotextile Applications in the Defense and Security Sector, 2019

Table 12: Nanotextile Applications in the Household Industry, 2019

Table 13: Nanotextile Applications in the Other Consumer Products, 2019

Table 14: Polymeric Nanofibers Used in Nanotextiles, 2019

Table 15: Carbon Nanofibers and Nanotubes Used in Nanotextiles, 2019

Table 16: Metallic Nanofibers Used in Nanotextiles, 2019

Table 17: Ceramic and Glass Nanofibers Used in Nanotextiles, 2019

Table 18: Semiconductor Nanofibers Used in Nanotextiles, 2019

Table 19: Composite Nanofibers Used in Nanotextiles, 2019

Table 20: Nanoparticles Used in Nanotextiles, 2019

Table 21: Properties of Nanotextiles, 2019

Table 22: Fabrication Methods for Nanofibers, 2019

Table 23: Nanocoating Processes for Nanotextiles

Table 24: Other Relevant R&D Activities, 2019

Table 25: Drivers, Restraints, Challenges, and Opportunities for the Nanotextile Market

Table 26: Global Market for Nanotextiles, by End-Use, Through 2024

Table 27: Global Market for Nanotextiles, by Type, Through 2019

Table 28: Global Market for Nanotextiles, by Functionality, Through 2019

Table 29: Global Market for Nanotextiles, by Nanostructured Material, Through 2019

Table 30: Global Market for Nanotextiles, by Application, Through 2019

Table 31: Global Market for Apparel Nanotextiles, by Application, Through 2019

Table 32: Global Market for Technical Nanotextiles, by Application, Through 2019

Table 33: Global Market for Household Nanotextiles, by Application, Through 2019



Table 34: Global Market for Other Consumer Products Nanotextiles, by Application, Through 2019

Table 35: Global Market for Nanotextiles, by Region/Country, Through 2019

Table 36: Global Market for Nanotextiles Used in Outerwear Fabrication, by

Region/Country, Through 2024

Table 37: Global Market for Nanotextiles Used in Underwear Fabrication, by Region/Country, Through 2024

Table 38: Global Market for Nanotextiles Used in Stocking, by Region/Country, Through 2024

Table 39: Global Market for Nanotextiles Used in Sportswear Fabrication, by Region/Country, Through 2024

Table 40: Global Market for Nanotextiles Used in Apparel Industry, by Region/Country, Through 2024

Table 41: Global Market for Nanotextiles Used in High-Tech Textiles, by Region/Country, Through 2024

Table 42: Global Market for Nanotextiles Used in Smart Textiles, by Region/Country, Through 2024

Table 43: Global Market for Nanotextiles Used in Filtration and Separation, by Type, Through 2024

Table 44: Global Market for Nanotextiles Used in Membrane Filtration, by Region/Country, Through 2024

Table 45: Global Market for Nanotextiles Used in Catalysts, by Type, Through 2024

Table 46: Global Market for Nanotextiles Used in Wound Dressings' Fabrication, by Type, Through 2024

Table 47: Global Market for Nanotextiles Used in Tissue Engineering Scaffolds, by Region/Country, Through 2024

Table 48: Global Market for Nanotextiles Used in Advanced Drug Delivery Systems, by Region/Country, Through 2024

Table 49: Global Market for Nanotextiles Used in Batteries, by Type, Through 2024

Table 50: Global Market for Nanotextiles Used in Supercapacitors, by Application, Through 2024

Table 51: Global Market for Nanotextiles Used in Fuel Cells, by Type, Through 2024

Table 52: Global Market for Nanotextiles Used in Piezoelectric Devices, by

Region/Country, Through 2024

Table 53: Global Market Volume for Nanotextiles Used in the Automotive Industry, by Region/Country, Through 2024

Table 54: Global Market for Nanotextiles Used in Household Furniture, by

Region/Country, Through 2024

Table 55: Global Market for Nanotextiles Used in Insect Repellent Products, by



Region/Country, Through 2024

Table 56: Global Market for Nanotextiles Used in Absorbent and Adsorbent Articles, by Type, Through 2024

Table 57: Global Market for Nanotextiles Used in Biodegradable Packaging, by Region/Country, Through 2024

Table 58: Global Market for Nanotextiles Used in Wearable Electronics, by Type, Through 2024

Table 59: Global Market for Nanotextiles Used in Wearable Medical Devices, by Application, Through 2024

Table 60: Global Market for Nanotextiles, by Type, Through 2024

Table 61: Global Market for Nanotextiles, by Functionality, Through 2024

Table 62: Global Market for Nanotextiles, by Nanostructured Material, Through 2024

Table 63: Global Market for Nanotextiles, by Application, Through 2024

Table 64: Global Market for Apparel Nanotextiles, by Application, Through 2024

Table 65: Global Market for Technical Nanotextiles, by Application, Through 2024

Table 66: Global Market for Household Nanotextiles, by Application, Through 2024

Table 67: Global Market for Other Consumer Products Nanotextiles, by Application, Through 2024

Table 68: Global Market for Nanotextiles, by Region/Country, Through 2024

Table 69: Leading Suppliers of Nanotextiles, 2019

Table 70: Leading Suppliers of Nanocoated Textiles, 2019

Table 71: Leading Suppliers of Nanofiber-Based Textiles, 2019

Table 72: Leading Suppliers of Nanocomposite Textiles, 2019

Table 73: Leading Suppliers of Nanoporous Textiles, 2019

Table 74: Leading Suppliers of Nanotextiles, by Technology Type and Region/Country, 2019

Table 75: Other Relevant Industry Players, 2019

Table 76: U.S. Patents Related to Nanotextiles, 2019

Table 77: U.S. Patent Trends for Nanotextiles, Through 2019\*

Table 78: U.S. Patents Related to Nanotextiles, by Region/Country, 2019

Table 79: U.S. Patents Related to Nanotextiles, by Country, 2019

Table 80: U.S. Patents Related to Nanotextiles, by Assignee, 2019

Table 81: U.S. Patents Related to Nanotextiles, by Patent Category, 2019

Table 82: U.S. Patents Related to Nanotextiles, by Nanostructured Material, 2019

Table 83: U.S. Patents Related to Nanotextiles, by Application, 2019



# **List Of Figures**

#### LIST OF FIGURES

Summary Figure: Global Market for Nanotextiles, by Application, 2017-2024

Figure 1: Global Market Share for Textiles, by Type, 2024

Figure 2: Global Market Share for Nanotechnology, by Type, 2024

Figure 3: Global Patent Applications and Patent Issued for Nanotextiles, 1990-2018

Figure 4: Global Market for Nanotextiles, by End-Use, 2017-2024

Figure 5: Global Market Share for Nanotextiles, by Type, 2019

Figure 6: Global Market Share for Nanotextiles, by Functionality, 2019

Figure 7: Global Market Share for Nanotextiles, by Nanostructured Material, 2019

Figure 8: Global Market Share for Nanotextiles, by Application, 2019

Figure 9: Global Market Share for Apparel Nanotextiles, by Application, 2019

Figure 10: Global Market Share for Technical Nanotextiles, by Application, 2019

Figure 11: Global Market Share for Household Nanotextiles, by Application, 2019

Figure 12: Global Market Share for Other Consumer Products Nanotextiles, by Application, 2019

Figure 13: Global Market Share for Nanotextiles, by Region/Country, 2019

Figure 14: Global Market Share for Nanotextiles Used in Outerwear Fabrication, by Region/Country, 2024

Figure 15: Global Market Share for Nanotextiles Used in Underwear Fabrication, by Region/Country, 2024

Figure 16: Global Market Share for Nanotextiles Used in Stocking, by Region/Country, 2024

Figure 17: Global Market Share for Nanotextiles Used in Sportswear Fabrication, by Region/Country, 2024

Figure 18: Global Market Share for Nanotextiles Used in Apparel Industry, by Region/Country, 2024

Figure 19: Global Market Share for Nanotextiles Used in High-Tech Textiles, by Region/Country, 2024

Figure 20: Global Market Share for Nanotextiles Used in Smart Textiles, by Region/Country, 2024

Figure 21: Global Market Share for Nanotextiles Used in Filtration and Separation, by Type, 2024

Figure 22: Global Market Share for Nanotextiles Used in Membrane Filtration, by Region/Country, 2024

Figure 23: Global Market Share for Nanotextiles Used in Catalysts, by Type, 2024

Figure 24: Global Market Share for Nanotextiles Used in Wound Dressings'



Fabrication, by Type, 2024

Figure 25: Global Market Share for Nanotextiles Used in Tissue Engineering Scaffolds, by Region/Country, 2024

Figure 26: Global Market Share for Nanotextiles Used in Advanced Drug Delivery Systems, by Region/Country, 2024

Figure 27: Global Market Share for Nanotextiles Used in Batteries, by Type, 2024

Figure 28: Global Market Share for Nanotextiles Used in Supercapacitors, by Application, 2024

Figure 29: Global Market Share for Nanotextiles Used in Fuel Cells, by Type, 2024

Figure 30: Global Market Share for Nanotextiles Used in Piezoelectric Devices, by Region/Country, 2024

Figure 31: Global Market Share Volume for Nanotextiles Used in the Automotive Industry, by Region/Country, 2024

Figure 32: Global Market Share for Nanotextiles Used in Household Furniture, by Region/Country, 2024

Figure 33: Global Market Share for Nanotextiles Used in Insect Repellent Products, by Region/Country, 2024

Figure 34: Global Market Share for Nanotextiles Used in Absorbent and Adsorbent Articles, by Type, 2024

Figure 35: Global Market Share for Nanotextiles Used in Biodegradable Packaging, by Region/Country, 2024

Figure 36: Global Market Share for Nanotextiles Used in Wearable Electronics, by Type, 2024

Figure 37: Global Market Share for Nanotextiles Used in Wearable Medical Devices, by Application, 2024

Figure 38: Global Market Share for Nanotextiles, by Type, 2024

Figure 39: Global Market Share for Nanotextiles, by Functionality, 2024

Figure 40: Global Market Share for Nanotextiles, by Nanostructured Material, 2024

Figure 41: Global Market Share for Nanotextiles, by Application, 2024

Figure 42: Global Market Share for Apparel Nanotextiles, by Application, 2024

Figure 43: Global Market Share for Technical Nanotextiles, by Application, 2024

Figure 44: Global Market Share for Household Nanotextiles, by Application, 2024

Figure 45: Global Market Share for Other Consumer Products Nanotextiles, by Application, 2024

Figure 46: Global Market Share for Nanotextiles, by Region/Country, 2024

Figure 47: Leading Suppliers of Nanotextiles, by Technology Type and Region/Country, 2019

Figure 48: U.S. Patent Trends for Nanotextiles, 2015-2019

Figure 49: U.S. Patent Share for Nanotextiles, by Region/Country, 2019



Figure 50: U.S. Patent Share for Nanotextiles, by Country, 2019

Figure 51: U.S. Patent Share for Nanotextiles, by Patent Category, 2019

Figure 52: U.S. Patent Share for Nanotextiles, by Nanostructured Material, 2019

Figure 53: U.S. Patent Share for Nanotextiles, by Application, 2019



#### I would like to order

Product name: Nanotextiles: Opportunities and Global Markets

Product link: https://marketpublishers.com/r/NC2B955FB00EN.html

Price: US\$ 2,750.00 (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/NC2B955FB00EN.html">https://marketpublishers.com/r/NC2B955FB00EN.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