

# **Smart Coatings: Applications and Global Markets**

https://marketpublishers.com/r/SF364DC1228EN.html

Date: October 2018

Pages: 161

Price: US\$ 1,375.00 (Single User License)

ID: SF364DC1228EN

### **Abstracts**

#### Report Scope:

The scope of the report covers the overview of the global market for smart coatings and analyses of the global market trends, with data from 2016, considering base year of 2017 and estimates for 2018 and 2023 with projection of CAGR in the forecast duration. The sales values are presented in US dollars, while volumes are presented in kilotons units. Estimated values used are based on manufacturers' total revenues. Projected and forecasted revenue values are in constant U.S. dollars, unadjusted for inflation.

The report includes discussion of technological and economic trends that are affecting the market. Further, it explains the major drivers and regional dynamics of the smart coatings market and current trends within the industry.

This report categorizes the global smart coatings market based on layer, function, enduse industry and region. On the basis of layers, the smart coatings market is divided into multi-layer and Single layer. Based on function, the smart coatings market is divided as anticorrosion, self-healing, self-cleaning, anti-icing, anti-fouling, anti-microbialand others (includes anti-fog, superhydrophobic, and self-dimming). On the basis of end-use industry, the market is divided into building and construction, automotive, aerospace, military, healthcare, consumer electronics, and others (includes marine, oil and gas, food processing, power, and textile). On the basis of region, the market is divided into North America, Asia-Pacific, Europe, South America, and Middle East and Africa.

The report concludes with a special focus on the vendor landscape and includes profiles of the major market players operating in the global smart coatings market.

Report Includes:



71 data tables and 23 additional tables

An overview of the global market for smart coatings

Analyses of global market trends, with data from 2017, 2018 and projections of CAGRs through 2023

Discussion of properties of smart coatings such as scratch resistance, strong acid resistance, high optical transmission, thermal stability and in-situ healing

Explanation of the major advantages of smart coatings such as increased ease of maintenance, easy-to-clean, good adhesion, and dirt-repellent

Company profiles of major players in the market, including The Dow Chemical Co., PPG Industries Inc, The Sherwin-Williams Co., 3M, and AkzoNobel N.V



# **Contents**

#### **CHAPTER 1 INTRODUCTION**

Study Goals and Objectives
Reasons for Doing the Study
Scope of Report
Intended Audience
Methodology and Information Sources
Geographic Breakdown
Analysts' Credentials
BCC Custom Research

Related BCC Research Reports

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

#### **CHAPTER 3 TECHNOLOGY AND MARKET OVERVIEW**

Introduction

Types of Stimuli

**Examples of Smart Coatings** 

Common Methods and Technologies to Produce Smart Coatings

**Chemical Conversion Coatings** 

Layer-by-Layer (LBL) Self-Assembling Molecule Deposition

Carbon Nanotubes

Nanocapsule and Microcapsule-Based Polymer Coatings

Water-borne Smart Coatings

Clay Nanotubes

Nanoporous Titania Interlayer

Shape Memory (SM) and Self-Healing Coatings

Self-Healing and Self-Cleaning Super Hydrophobic Coatings

Self-Healing Ion-Perm Selective Conductive Polymer Coatings

**Smart Coatings: Functionalities** 

Anticorrosion

Color-Shifting

Bioactive

Self-Repair/Self-Healing

Super-hydrophobic

Self-Cleaning



Anti-icing

Others

Benefits of Smart Coatings

Industry Structure and Overview

Market Dynamics

**Smart Coatings Markets: Growth Drivers** 

The Superior Properties of Smart Coatings

Growing Demand from End-Use Industries

Use of Nanomaterials in Smart Coatings

Market Restraints

High Cost of Raw Materials

Opportunities

Emerging Regions Present Strong Opportunity for Growth

High Potential in Solar Power Generation

Challenges

Poor Durability and Dispersions in Real Applications

Other Key Success Factors

**Backward Integration** 

Supply Chain Management

Rising Urbanization and Infrastructure Development in Developing Nations

**Technological Capabilities** 

**Technology Overview** 

Smart Coatings Technology Under Development

Value Chain Analysis

**Binders** 

Solvents

**Pigments** 

Additives

**Industry Outlook** 

**Building and Construction** 

Automotive

Healthcare

#### CHAPTER 4 MARKETS BREAKDOWN BY MAJOR SEGMENTS

Introduction

Multi-layer

Introduction

Multi-layer Smart Coatings: Advantages and Disadvantages

Smart Coatings: Applications and Global Markets



Market Size Estimation and Forecast

Single layer

Introduction

Single-Layer Smart Coatings: Advantages and Disadvantages

Market Size Estimation and Forecast

#### **CHAPTER 5 MARKETS BREAKDOWN BY FUNCTION**

Introduction

**Anticorrosion Coatings** 

Introduction

Types of Corrosion

Technologies Used in the Prevention and Control of Corrosion

Market Size Estimation and Forecast

Self-Healing

Introduction

Self-Healing Technology

Market Size Estimation and Forecast

Self-Cleaning

Introduction

Market Size Estimation and Forecast

Antimicrobial

Introduction

Market Size Estimation and Forecast

Anti-icing

Introduction

Market Size Estimation and Forecast

Antifouling

Introduction

Market Size Estimation and Forecast

Others

Introduction

Self-Dimming

Anti-fog

Super-hydrophobic

Market Size Estimation and Forecast

#### **CHAPTER 6 MARKET BREAKDOWN BY END-USE INDUSTRY**



Introduction

**Building and Construction** 

Introduction

Market Size Estimation and Forecast

Automotive

Introduction

Market Size Estimation and Forecast

Aerospace

Introduction

Market Size Estimation and Forecast

Military

Introduction

Market Size Estimation and Forecast

Healthcare

Introduction

Market Size Estimation and Forecast

**Consumer Electronics** 

Introduction

Market Size Estimation and Forecast

Others

Introduction

Market Size Estimation and Forecast

#### **CHAPTER 7 MARKET BREAKDOWN BY REGION**

Introduction

North America

Introduction

Market Size Estimation and Forecast

**United States** 

Canada

Mexico

Asia-Pacific

Introduction

Market Size Estimation and Forecast

China

India

Japan

Europe



Introduction

Market Size Estimation and Forecast

Germany

France

Italy

South America

Introduction

Market Size Estimation and Forecast

Brazil

Argentina

Middle East and Africa

Introduction

Market Size Estimation and Forecast

Saudi Arabia

UAE

#### CHAPTER 8 COMPETITIVE LANDSCAPE AND PATENT ANALYSIS

Introduction

Porter's Five Forces Analysis

Threat of New Entrants

Threat of Substitutes

**Bargaining Powers of Buyers** 

**Bargaining Powers of Suppliers** 

Intensity of Competitive Rivalry

**Major Companies** 

Key Developments in the Smart Coatings Markets

Patent Review

Introduction

Pre-2000

Between 2000 and 2005

Between 2005 and 2010

Post-2010

### **CHAPTER 9 COMPANY PROFILES**

3M

**Business Overview** 



**Business Performance** 

**Products Offered** 

Development and Strategies

AKZONOBEL N.V.

**Business Overview** 

**Business Performance** 

**Products Offered** 

Development and Strategies

**AXALTA COATING SYSTEMS** 

**Business Overview** 

**Business Performance** 

**Products Offered** 

Development and Strategies

ADVANCED POLYMERICS INC.

**Business Overview** 

ANCATT INC.

**Business Overview** 

ADAPTA COLOR S.L

**Business Overview** 

**ACULON** 

**Business Overview** 

**BASF SE** 

**Business Overview** 

**Business Performance** 

**Products Offered** 

**Development and Strategies** 

BALCONY SYSTEMS SOLUTIONS LTD.

**Business Overview** 

CRODA INTERNATIONAL PLC

**Business Overview** 

**CG2 NANOCOATINGS** 

**Business Overview** 

DEBIOTECH S.A.

**Business Overview** 

THE DOW CHEMICAL CO. (SUBSIDIARY OF DOWDUPONT INC.)

**Business Overview** 

**Business Performance** 

**Products Offered** 

**Development and Strategies** 



**ENCORE COATINGS** 

**Business Overview** 

HEMPEL A/S

**Business Overview** 

**Business Performance** 

**Products Offered** 

Development and Strategies

**HYGRATEK** 

**Business Overview** 

HELICITY TECHNOLOGIES INC.

**Business Overview** 

**INDUCOAT** 

**Business Overview** 

**JOTUN** 

**Business Overview** 

**Business Performance** 

**Products Offered** 

**Development and Strategies** 

KONINKLIJKE DSM N.V.

**Business Overview** 

**NANOSHELL** 

**Business Overview** 

NEI CORP.

**Business Overview** 

NIPPON SHEET GLASS CO. LTD.

**Business Overview** 

PPG INDUSTRIES INC.

**Business Overview** 

**Business Performance** 

**Products Offered** 

**Development and Strategies** 

RPM INTERNATIONAL INC.

**Business Overview** 

**Business Performance** 

**Products Offered** 

**Development and Strategies** 

THE SHERWIN-WILLIAMS CO.

**Business Overview** 

**Business Performance** 



Products Offered
Development and Strategies
SMART COATING SYSTEMS
Business Overview
TESLA NANOCOATINGS
Business Overview

**CHAPTER 10 APPENDIX** 



# **List Of Tables**

#### LIST OF TABLES

Summary Table: Global Market for Smart Coatings, by Region, Through 2023

Table 1: Different Types of Stimuli

Table 2: Environmental Stimuli and Responsive Materials

Table 3: Nanoparticles Used for Inducing a Specific Property

Table 4: Application of Nanomaterials in Coatings and Functions

Table 5: Urban Population, by Region, 2015 and 2030

Table 6: Vehicle Production by Country, 2016 and 2017

Table 7: Healthcare Expenditures as a Percentage of Gross Domestic Product, by

Country, 2014 and 2015

Table 8: Global Market for Smart Coatings, by Major Segment, Through 2023

Table 9: Global Market Share of Smart Coatings, by Major Segment, 2018

Table 10: Global Market for Multi-Layer Smart Coatings, by Region, Through 2023

Table 11: Global Markets for Single-Layer Smart Coatings, by Region, Through 2023

Table 12: Global Market for Smart Coatings, by Function, Through 2023

Table 13: Types of Corrosion

Table 14: Global Market for Anticorrosion Smart Coatings, by Region, Through 2023

Table 15: Global Market for Self-Healing Smart Coatings, by Region, Through 2023

Table 16: Global Market for Self-Cleaning Smart Coatings, by Region, Through 2023

Table 17: Global Market for Antimicrobial Smart Coatings, by Region, Through 2023

Table 18: Global Market for Anti-icing Smart Coatings, by Region, Through 2023

Table 19: Global Market for Antifouling Smart Coatings, by Region, Through 2023

Table 20: Global Market for Smart Coatings for Other Functions, by Region, Through 2023

Table 21: Global Market for Smart Coatings, by End-Use Industry, Through 2023

Table 22: Smart Coating Applications in the Building and Construction Industry

Table 23: Global Market for Smart Coatings in the Building and Construction Industry,

by Region, Through 2023

Table 24: Smart Coatings Applications in the Automotive Industry

Table 25: Global Market for Smart Coatings in the Automotive Industry, by Region,

Through 2023

Table 26: Evolution of Smart Structures in the Aerospace Industry

Table 27: Smart Coating Applications in the Aerospace Industry

Table 28: Global Market for Smart Coatings in the Aerospace Industry, by Region,

Through 2023



- Table 29: Smart Coating Applications in the Military Industry
- Table 30: Global Market for Smart Coatings in the Military Industry, by Region, Through 2023
- Table 31: Smart Coating Applications in the Healthcare Industry
- Table 32: Global Market for Smart Coatings in Healthcare, by Region, Through 2023
- Table 33: Smart Coatings Applications in the Consumer Electronics Industry
- Table 34: Global Market for Smart Coatings in the Consumer Electronics Industry, by Region, Through 2023
- Table 35: Smart Coating Applications in Other Industries
- Table 36: Global Market for Smart Coatings in Other Industries, by Region, Through 2023
- Table 37: Global Market Volume for Smart Coatings, by Region, Through 2023
- Table 38: Global Market for Smart Coatings, by Region, Through 2023
- Table 39: North American Market for Smart Coatings, by Major Segment, Through 2023
- Table 40: North American Market for Smart Coatings, by Function, Through 2023
- Table 41: North American Market for Smart Coatings, by End-Use Industry, Through 2023
- Table 42: North American Market for Smart Coatings, by Country, Through 2023
- Table 43: U.S. Market for Smart Coatings, by End-Use Industry, Through 2023
- Table 44: Canadian Market for Smart Coatings, by End-Use Industry, Through 2023
- Table 45: Mexican Market for Smart Coatings, by End-Use Industry, Through 2023
- Table 46: Asia-Pacific Market for Smart Coatings, by Major Segment, Through 2023
- Table 47: Asia-Pacific Market for Smart Coatings, by Function, Through 2023
- Table 48: Asia-Pacific Market for Smart Coatings, by End-Use Industry, Through 2023
- Table 49: Asia-Pacific Market for Smart Coatings, by Country, Through 2023
- Table 50: Chinese Market for Smart Coatings, by End-Use Industry, Through 2023
- Table 51: Indian Market for Smart Coatings, by End-Use Industry, Through 2023
- Table 52: Japanese Market for Smart Coatings, by End-Use Industry, Through 2023
- Table 53: European Market for Smart Coatings, by Major Segment, Through 2023
- Table 54: European Market for Smart Coatings, by Function, Through 2023
- Table 55: European Market for Smart Coatings, by End-Use Industry, Through 2023
- Table 56: European Market for Smart Coatings, by Country, Through 2023
- Table 57: German Market for Smart Coatings, by End-Use Industry, Through 2023
- Table 58: French Market for Smart Coatings, by End-Use Industry, Through 2023
- Table 59: Italian Market for Smart Coatings, by End-Use Industry, Through 2023
- Table 60: South American Market for Smart Coatings, by Segment, Through 2023
- Table 61: South American Market for Smart Coatings, by Function, Through 2023
- Table 62: South American Market for Smart Coatings, by End-Use Industry, Through 2023



Table 63: South American Market for Smart Coatings, by Country, Through 2023

Table 64: Brazilian Market for Smart Coatings, by End-Use Industry, Through 2023

Table 65: Argentinian Market for Smart Coatings, by End-Use Industry, Through 2023

Table 66: Middle East and African Market for Smart Coatings, by Segment, Through 2023

Table 67: Middle East and African Market for Smart Coatings, by Function, Through 2023

Table 68: Middle East and African Market for Smart Coatings, by End-Use Industry, Through 2023

Table 69: Middle East and African Market for Smart Coatings, by Country, Through 2023

Table 70: Saudi Arabian Market for Smart Coatings, by End-Use Industry, Through 2023

Table 71: UAE Market for Smart Coatings, by End-Use Industry, Through 2023

Table 72: Key Developments in the Smart Coatings Markets, June 2015 - May 2018

Table 73: 3M: Company Financials, 2015-2017

Table 74: Products: 3M

Table 75: Akzo Nobel N.V.: Company Financials, 2015-2017

Table 76: Products: Akzo Nobel N.V.

Table 77: Axalta Coating Systems: Company Financials, 2015-2017

Table 78: Products: Axalta Coating Systems

Table 79: BASF SE: Company Financials, 2015-2017

Table 80: Products: BASF SE

Table 81: The Dow Chemical Co.: Company Financials, 2015-2017

Table 82: Products: The Dow Chemical Co.

Table 83: Hempel A/S: Company Financials, 2015-2017

Table 84: Products: Hempel A/S

Table 85: Jotun: Company Financials, 2015-2017

Table 86: Products: Jotun

Table 87: PPG Industries Inc.: Company Financials, 2015-2017

Table 88: Products: PPG Industries Inc.

Table 89: RPM International Inc.: Company Financials, 2015-2017

Table 90: Products: RPM International Inc.

Table 91: The Sherwin-Williams Co.: Financials, 2015-2017

Table 92: Products: The Sherwin-Williams Co.

Table 93: Smart Coatings Market: Acronyms/Abbreviations



# **List Of Figures**

#### LIST OF FIGURES

Summary Figure: Global Market for Smart Coatings, by Region, 2017-2023

Figure 1: Value Chain Analysis for Smart Coatings Markets

Figure 2: Construction Output Growth, 2012-2016 and 2017-2021

Figure 3: Global Market for Smart Coatings, by Major Segment, 2017-2023

Figure 4: Global Market Share of Smart Coatings, by Major Segment, 2018

Figure 5: Global Market for Multi-layer Smart Coatings, by Region, 2017-2023

Figure 6: Global Market for Single-Layer Smart Coatings, by Region, 2017-2023

Figure 7: Global Market for Smart Coatings, by Function, 2017-2023

Figure 8: Global Market Share of Smart Coatings, by Function, 2018

Figure 9: Global Market for Anticorrosion Smart Coatings, by Region, 2017-2023

Figure 10: Global Market for Self-Healing Smart Coatings, by Region, 2017-2023

Figure 11: Global Market for Self-Cleaning Smart Coatings, by Region, 2017-2023

Figure 12: Global Market for Antimicrobial Smart Coatings, by Region, 2017-2023

Figure 13: Global Market for Anti-icing Smart Coatings, by Region, 2017-2023

Figure 14: Global Market for Antifouling Smart Coatings, by Region, 2017-2023

Figure 15: Global Market for Smart Coatings for Other Functions, by Region, 2017-2023

Figure 16: Global Market for Smart Coatings, by End-Use Industry, 2017-2023

Figure 17: Global Market Share of Smart Coatings, by End-Use Industry, 2018

Figure 18: Global Market for Smart Coatings in the Building and Construction Industry,

by Region, 2017-2023

Figure 19: Global Market for Smart Coatings in the Automotive Industry, by Region,

2017-2023

Figure 20: Global Market for Smart Coatings in the Aerospace Industry, by Region,

2017-2023

Figure 21: Global Market for Smart Coatings in the Military Industry, by Region,

2017-2023

Figure 22: Global Market for Smart Coatings in Healthcare, by Region, 2017-2023

Figure 23: Global Market for Smart Coatings in the Consumer Electronics Industry, by

Region, 2017-2023

Figure 24: Global Market for Smart Coatings in Other Industries, by Region, 2017-2023

Figure 25: Global Market Share of Smart Coatings, by Region, 2018

Figure 26: Global Smart Coatings Markets, Porter's Five Force Model

Figure 27: 3M: Revenue Share, by Business Segment, 2017

Figure 28: 3M: Revenue Share, by Region, 2017

Figure 29: Akzo Nobel N.V.: Revenue Share, by Business Segment, 2017



Figure 30: Akzo Nobel N.V.: Revenue Share, by Region, 2017

Figure 31: Axalta Coating Systems: Revenue Share, by Business Segment, 2017

Figure 32: Axalta Coating Systems Revenue Share, by Region, 2017

Figure 33: BASF SE Revenue Share, by Business Segment, 2017

Figure 34: BASF SE: Revenue Share, by Region, 2017

Figure 35: The Dow Chemical Co.: Revenue Share, by Business Segment, 2017

Figure 36: The Dow Chemical Co.: Revenue Share, by Region, 2017

Figure 37: Hempel A/S: Revenue Share, by Region, 2017

Figure 38: Jotun: Revenue Share, by Business Segment, 2017

Figure 39: PPG Industries Inc.: Revenue Share, by Business Segment, 2017

Figure 40: PPG Industries Inc.: Revenue Share, by Region, 2017

Figure 41: RPM International Inc.: Revenue Share, by Business Segment, 2017

Figure 42: The Sherwin-Williams Co.: Revenue Share, by Business Segment, 2017



#### I would like to order

Product name: Smart Coatings: Applications and Global Markets

Product link: <a href="https://marketpublishers.com/r/SF364DC1228EN.html">https://marketpublishers.com/r/SF364DC1228EN.html</a>

Price: US\$ 1,375.00 (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/SF364DC1228EN.html">https://marketpublishers.com/r/SF364DC1228EN.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