

# **Functional Printing Market (2013 – 2020) by Materials (Substrate, Inks), Technology (Inkjet, Screen, Flexo, Gravure), Application (Sensors, Displays, Batteries, RFID, Lighting, PV, Medical), and Geography (North America, Europe, APAC, ROW)**

<https://marketpublishers.com/r/FE41B8DD645EN.html>

Date: November 2013

Pages: 312

Price: US\$ 5,650.00 (Single User License)

ID: FE41B8DD645EN

## **Abstracts**

The functional printing technology is advancing from research and development into production and is penetrating many applications like sensors, batteries, RFID, photovoltaic, flexible display, and so on. The production of silicon based components using conventional fabrication methods is found to be costly and faces environmental issues. These issues have pushed the demand for low cost and environmentally sustainable techniques, thus, stimulating the emergence of other manufacturing techniques like printing technologies. The major printing technologies used for functional printing are inkjet, screen, gravure, and flexography.

The choice of printing technology is made by giving due consideration to the properties of the substrates, thickness of film, ink properties, and the cost. Currently, few of the manufacturers have started using new printing technologies, like additive manufacturing processes, to print electronic parts and components on rigid or flexible substrates. Additive manufacturing for production provides great benefits like freedom in design, cost, and high material utilization for the entire production value chain. Other than the conventional methods, even new printing processes are being developed, including micro-contact printing and nano-imprint lithography.

The major barrier inhibiting the growth of the market, currently, is the reliability of the end products (printed electronics), and it is expected that this issue will be overcome by the advancement in the functional printing technology. In addition to this, the market is opposed to the issue of complexity during the manufacturing processes, which require a

high level of accuracy for the desired output.

### **Scope of the report**

The report presents the detailed analysis of the markets for the functional printing; such as materials, technology, and coating; and, also, includes detailed analysis of application segments and geographical split across the globe.

### **On the basis of materials**

The market is segmented into two categories, namely: substrates and inks. Substrates are again segmented into glass, paper, and plastics; and inks are classified into conductive inks, dielectric ink, graphene inks, and others.

### **On the basis of technology**

The functional printing technology market is segmented into inkjet printing, screen printing, gravure printing, flexography, and others.

### **On the basis of coating**

The functional printing coating market is segmented into two types, namely: conductive coating and conformal coating.

### **On the basis of applications**

The functional printing application market is divided into sensor, batteries, displays, RFID tags, Lighting, photovoltaic, and so on.

### **On the basis of geography**

North America

Europe

Asia-Pacific

ROW

Each section provides market data, market drivers, trends and opportunities, key players, and the competitive outlook. It also provides the market tables for covering the sub-segments and micro-markets.

The major companies in the functional printing market, profiled in this report, are Avery Dennison Corporation (U.S.), BASF SE (Germany), Blue Spark Technologies (U.S.), DuraTech Industries Inc (U.S.), E Ink Holdings, Inc (Taiwan), Eastman Kodak Company (U.S.), EnfucellOy (Finland), ESMA (Belgium), GSI Technologies LLC (U.S.), ISORG (France), Koviolnc (U.S.), Mark Andy Inc(U.S.), Nano Solar Inc (U.S.), Novaled AG (Germany), Optomec Inc (U.S.), Palo Alto Research Center Incorporated(PARC) (U.S.), Toppan Forms Co. Ltd (U.S.), Toyo Ink SC Holdings Co Ltd (U.S.), Trident Industrial Inkjet (U.S.), Vorbeck Materials(U.S.), Xaar PLC (U.K.), and Xennia (U.K.).

## Contents

### 1 INTRODUCTION

- 1.1 KEY TAKE-AWAYS
- 1.2 REPORT DESCRIPTION
- 1.3 MARKETS COVERED
- 1.4 STAKEHOLDERS
- 1.5 RESEARCH METHODOLOGY
  - 1.5.1 MARKET SIZE
  - 1.5.2 KEY DATA POINTS TAKEN FROM SECONDARY SOURCES
  - 1.5.3 KEY DATA POINTS TAKEN FROM PRIMARY SOURCES
  - 1.5.4 ASSUMPTIONS MADE FOR THIS REPORT

### 2 EXECUTIVE SUMMARY

### 3 COVER STORY - INTERVIEW WITH DIRECTOR OF MARKETING AND SALES, TRIDENT-ITW

### 4 MARKET OVERVIEW

- 4.1 INTRODUCTION
- 4.2 MARKET DEFINITION & SEGMENTATION
- 4.3 HISTORY AND EVOLUTION OF FUNCTIONAL PRINTING
- 4.4 VALUE CHAIN ANALYSIS
- 4.5 MARKET DYNAMICS
  - 4.5.1 DRIVERS
    - 4.5.1.1 Low Manufacturing Cost, Wide Range OF Substrates and High Speed Manufacturing
    - 4.5.1.2 Simplified Additive Manufacturing to Print Fine Features and Structures onto all Substrates
    - 4.5.1.3 Roll-to-Roll Printing for Large Area Processing, which Offers Significant Cost Advantage in Fabrication
    - 4.5.1.4 Functional Printing has the Potential to Reduce Environmental Impact, Energy Consumption, and Material Wastage
    - 4.5.1.5 Push Towards Thin and Flexible form Factors in Electronics are Expected to Facilitate New Kind of Devices that can be Folded or Rolled
  - 4.5.2 RESTRAINTS
    - 4.5.2.1 Challenges to the Electrically Functional Inks is Limiting the Growth of the

## Global Printed Electronics Market

4.5.2.2 Existing Technologies are not Designed for Printed Electronics, they are just being Modified

### 4.5.3 OPPORTUNITIES

4.5.3.1 Emergence of New Functionalities, Applications; and Integration into Multiple Products

4.5.3.2 Additive Manufacturing/3D Printing, another Game Changing Trend that can Scale into many Functional Printing Applications.

### 4.5.4 BURNING ISSUES

4.5.4.1 The Manufacturing Processes are Complex and Require High Level of Accuracy to get a Desired Output

### 4.5.5 WINNING IMPERATIVE

4.5.5.1 The Convergence of Several Industries and Vertical Sectors Expand the Potential of Functional Printing and will Help Leverage Untapped Markets

## 4.6 PORTER'S FIVE FORCES MODEL - FUNCTIONAL PRINTING MARKET

### 4.6.1 DEGREE OF COMPETITION

### 4.6.2 BARGAINING POWER OF BUYERS

### 4.6.3 BARGAINING POWER OF SUPPLIERS

### 4.6.4 THREAT FROM SUBSTITUTES

### 4.6.5 THREAT FROM NEW ENTRANTS

## 5 FUNCTIONAL PRINTING MARKET BY MATERIALS

### 5.1 INTRODUCTION

### 5.2 SUBSTRATES

#### 5.2.1 GLASS

#### 5.2.2 PLASTIC

##### 5.2.2.1 Polyethylene Naphthalene (PEN)

###### 5.2.2.1.1 Benefits of PEN

##### 5.2.2.2 Polyethylene Terephthalate (PET)

###### 5.2.2.2.1 Benefits of PET

#### 5.2.3 PAPER

#### 5.2.4 SILICON CARBIDE

#### 5.2.5 GALLIUM NITRIDE (GAN)

#### 5.2.6 OTHERS

### 5.3 INKS

#### 5.3.1 CONDUCTIVE INKS

##### 5.3.1.1 Conductive Silver Inks

##### 5.3.1.2 Conductive Copper Inks

- 5.3.2 GRAPHENE INK
- 5.3.3 DIELECTRIC INKS
- 5.3.4 OTHERS

## **6 MARKET SEGMENTATION BY TECHNOLOGY**

- 6.1 INTRODUCTION
- 6.2 INKJET PRINTING
  - 6.2.1 THE BENEFITS OF INKJET PRINTING
  - 6.2.2 CHALLENGES IN INKJET PRINTING
  - 6.2.3 NEW OPPORTUNITIES OFFERED BY INKJET PRINTING
  - 6.2.4 MAJOR COMPANIES INTO INKJET PRINTING TECHNOLOGY
- 6.3 SCREEN PRINTING
  - 6.3.1 BENEFITS OF SCREEN PRINTING
  - 6.3.2 CHALLENGES IN SCREEN PRINTING
  - 6.3.3 NEW OPPORTUNITIES OFFERED BY SCREEN PRINTING
  - 6.3.4 MAJOR COMPANIES INTO SCREEN PRINTING TECHNOLOGY
- 6.4 FLEXOGRAPHY
  - 6.4.1 BENEFITS OF FLEXOGRAPHIC PRINTING
  - 6.4.2 CHALLENGES IN FLEXOGRAPHIC PRINTING
  - 6.4.3 NEW OPPORTUNITIES OFFERED BY FLEXOGRAPHIC PRINTING
  - 6.4.4 MAJOR COMPANIES INTO FLEXOGRAPHIC PRINTING TECHNOLOGY
- 6.5 GRAVURE PRINTING
  - 6.5.1 BENEFITS OF GRAVURE PRINTING
  - 6.5.2 CHALLENGES IN GRAVURE PRINTING
  - 6.5.3 NEW OPPORTUNITIES OFFERED

### **BY GRAVURE PRINTING**

- 6.5.4 MAJOR COMPANIES INTO GRAVURE PRINTING TECHNOLOGY
- 6.6 OTHERS
  - 6.6.1 OFFSET PRINTING
    - 6.6.1.1 Benefits of Offset Printing
    - 6.6.1.2 Challenges in Offset Printing
    - 6.6.1.3 Major Companies into Offset Printing Technology
  - 6.6.2 NANOIMPRINT LITHOGRAPHY
    - 6.6.2.1 Major Companies into Nanoimprint Lithography
  - 6.6.3 MICROCONTACT PRINTING
    - 6.6.3.1 Characteristics of Microcontact Printing

- 6.6.3.2 challenges with Microcontact Printing
- 6.6.3.3 Major Companies into Microcontact Printing Technology
- 6.6.4 AEROSOL JET PRINTING

## **7 FUNCTIONAL PRINTING MARKET BY APPLICATION**

### **7.1 INTRODUCTION**

### **7.2 SENSORS**

#### **7.2.1 MAJOR COMPANIES MANUFACTURING PRINTED SENSORS**

### **7.3 DISPLAYS**

#### **7.3.1 E-PAPER DISPLAYS**

- 7.3.1.1 Applications based on e-Paper Technology
- 7.3.1.2 Benefits of e-Paper Display
- 7.3.1.3 Challenges in e-Paper Display
- 7.3.1.4 Type of e-Paper Display
  - 7.3.1.4.1 Electrophoretic
  - 7.3.1.4.2 Electrochromic
  - 7.3.1.4.3 Others
    - 7.3.1.4.3.1 Electrowetting
    - 7.3.1.4.3.2 Cholesteric Liquid Crystal Display (CH-LCD)
- 7.3.1.5 Comparison Analysis of e-Paper Display Technologies

#### **7.3.2 OLED DISPLAY**

- 7.3.2.1 Benefits of OLED Displays
- 7.3.2.2 Challenges in OLED Display
- 7.3.2.3 Major Company Offering OLED Display
- 7.3.2.4 E-paper Display VS OLED

#### **7.3.3 LIQUID CRYSTAL DISPLAY (LCD)**

### **7.4 BATTERIES**

#### **7.4.1 PRINTED BATTERIES BY RECHARGEABILITY**

#### **7.4.2 PRINTED BATTERIES BY VOLTAGE TYPE**

#### **7.4.3 BENEFITS OF PRINTED BATTERY**

- 7.4.3.1 Highly Flexible
- 7.4.3.2 Lightweight and Compact Structure
- 7.4.3.3 Environment-Friendliness of the Batteries
- 7.4.3.4 No Thermal Runaway for Batteries
- 7.4.3.5 Adoption of Pervasive Power Application

#### **7.4.4 CHALLENGES IN PRINTED BATTERY**

- 7.4.4.1 Heavy Capital Investments
- 7.4.4.2 Manufacturing Processes are Tedious, Time Consuming, and Involves a lot of

## Defects

### 7.4.4.3 Limited Number of Buyers

## 7.5 RFID TAGS

### 7.5.1 BENEFITS OF RFID TAG

### 7.5.2 CHALLENGES IN RFID

## 7.6 LIGHTING

### 7.6.1 MAJOR PLAYERS OFFERING OLED LIGHTING

## 7.7 PHOTOVOLTAIC

### 7.7.1 BENEFITS OF PRINTED PHOTOVOLTAIC

### 7.7.2 CHALLENGES IN PRINTED PHOTOVOLTAIC

## 7.8 OTHERS

# 8 MARKET SEGMENTATION BY COATINGS

## 8.1 INTRODUCTION

## 8.2 COATING

### 8.2.1 CONDUCTIVE COATING

#### 8.2.1.1 Materials used to form Conductive Coating

#### 8.2.1.2 Applications Areas of Conductive Coating

### 8.2.2 CONFORMAL COATING

#### 8.2.2.1 Materials used to form Conformal Coating

#### 8.2.2.2 Application of Conformal Coating

# 9 FUNCTIONAL PRINTING MARKET BY GEOGRAPHY

## 9.1 INTRODUCTION

### 9.1.1 NORTH AMERICA

### 9.1.2 EUROPE

### 9.1.3 ASIA PACIFIC

### 9.1.4 REST OF WORLD (ROW)

# 10 COMPETITIVE LANDSCAPE

## 10.1 MARKET SHARE ANALYSIS

### 10.1.1 MAJOR EQUIPMENT MANUFACTURERS OF FUNCTIONAL PRINTING SYSTEMS

### 10.1.2 MAJOR SUPPLIERS OF FUNCTIONAL PRINTING MATERIALS

### 10.1.3 MAJOR PLAYERS IN SCREEN PRINTING TECHNOLOGY

### 10.1.4 MAJOR PLAYERS IN INKJET PRINTING TECHNOLOGY



- 10.1.5 MAJOR PLAYERS IN GRAVURE PRINTING TECHNOLOGY
- 10.1.6 MAJOR PLAYERS IN FLEXOGRAPHY PRINTING TECHNOLOGY
- 10.1.7 MAJOR PLAYERS IN PRINTED ELECTRONICS MARKET
- 10.2 NEW PRODUCT LAUNCHES: THE MOST PREFERRED STRATEGIC APPROACH; WHILE PARTNERSHIPS AND AGREEMENTS ARE ON THE RISE
- 10.3 NEW PRODUCT DEVELOPMENTS
- 10.4 PARTNERSHIPS, AGREEMENTS, COLLABORATIONS AND STRATEGIC COOPERATIONS
- 10.5 MERGERS & ACQUISITIONS
- 10.6 OTHERS

## **11 COMPANY PROFILES (OVERVIEW, PRODUCTS AND SERVICES, FINANCIALS, STRATEGY & DEVELOPMENT)**

- 11.1 AVERY DENNISON CORPORATION
- 11.2 BASF SE
- 11.3 BLUE SPARK TECHNOLOGIES
- 11.4 DURATECH INDUSTRIES INC
- 11.5 E INK HOLDINGS INC
- 11.6 EASTMAN KODAK COMPANY
- 11.7 ENFUCELL OY
- 11.8 ESMA
- 11.9 GSI TECHNOLOGIES LLC
- 11.10 ISORG
- 11.11 KOVIO INC.
- 11.12 MARK ANDY INC.
- 11.13 NANOSOLAR INC.
- 11.14 NOVALED AG
- 11.15 OPTOMECH INC.
- 11.16 PALO ALTO RESEARCH CENTER INCORPORATED
- 11.17 TOPPAN FORMS CO. LTD.
- 11.18 TOYO INK SC HOLDINGS CO. LTD.
- 11.19 TRIDENT INDUSTRIAL INKJET
- 11.20 VORBECK MATERIALS CORPORATION
- 11.21 XAAR PLC
- 11.22 XENNIA TECHNOLOGY LTD. (Details on Overview, Products and Services, Financials, Strategy & Development might not be Captured in case of Unlisted Companies.)

## List Of Tables

### LIST OF TABLES

TABLE 1 GENERAL ASSUMPTIONS, TERMINOLOGY & APPLICATION KEY NOTES
TABLE 2 GLOBAL FUNCTIONAL PRINTING MARKET VALUE, BY TECHNOLOGY, 2012 - 2020 (\$BILLION)
TABLE 3 GLOBAL FUNCTIONAL PRINTING MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$BILLION)
TABLE 4 COMPARISON BETWEEN TRADITIONAL PRINTING AND EXISTING PRINTING TECHNOLOGIES
TABLE 5 MAJOR PARAMETERS TAKEN INTO ACCOUNT FOR DIFFERENT APPLICATIONS USING FUNCTIONAL PRINTING
TABLE 6 FUNCTIONAL PRINTING PORTERS FIVE FORCES: IMPACT ANALYSIS, 2013 - 2020
TABLE 7 FUNCTIONAL PRINTING IMPACT ANALYSIS OF DEGREE OF COMPETITION
TABLE 8 FUNCTIONAL PRINTING IMPACT ANALYSIS OF BUYER'S BARGAINING POWER
TABLE 9 FUNCTIONAL PRINTING IMPACT ANALYSIS OF SUPPLIER'S BARGAINING POWER
TABLE 10 FUNCTIONAL PRINTING IMPACT ANALYSIS OF THREAT FROM SUBSTITUTES
TABLE 11 FUNCTIONAL PRINTING IMPACT ANALYSIS OF THREAT OF NEW ENTRANTS
TABLE 12 GLOBAL FUNCTIONAL PRINTING MARKET VALUE, BY MATERIALS, 2012 - 2020 (\$BILLION)
TABLE 13 GLOBAL FUNCTIONAL PRINTING MARKET VALUE, BY SUBSTRATE, 2012 - 2020 (\$BILLION)
TABLE 14 GLOBAL FUNCTIONAL PRINTING MARKET VALUE, BY INKS, 2012 - 2020 (\$BILLION)
TABLE 15 COMPARISON: NANOSILVER INKS VS NANO COPPER INKS
TABLE 16 GLOBAL FUNCTIONAL PRINTING MARKET VALUE, BY TECHNOLOGY, 2012 - 2020 (\$BILLION)
TABLE 17 CHARACTERISTICS OF PRINTING TECHNOLOGIES
TABLE 18 GLOBAL FUNCTIONAL INKJET PRINTING MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$MILLION)
TABLE 19 GLOBAL SCREEN PRINTING MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$MILLION)

TABLE 20 GLOBAL FLEXOGRAPHY PRINTING MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$MILLION)

TABLE 21 GLOBAL GRAVURE PRINTING MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$MILLION)

TABLE 22 GLOBAL OTHER PRINTING TECHNOLOGIES MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$MILLION)

TABLE 23 GLOBAL FUNCTIONAL PRINTING MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$BILLION)

TABLE 24 CONVENTIONAL VS PRINTED ELECTRONICS

TABLE 25 GLOBAL PRINTED ELECTRONICS MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$BILLION)

TABLE 26 GLOBAL PRINTED SENSORS EQUIPMENT MARKET, BY TECHNOLOGY, 2012 - 2020 (\$MILLION)

TABLE 27 GLOBAL PRINTED SENSORS EQUIPMENT MARKET, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 28 GLOBAL PRINTED SENSORS MARKET VALUE, BY TYPE, 2012 - 2020 (\$MILLION)

TABLE 29 GLOBAL PRINTED SENSORS MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$MILLION)

TABLE 30 GLOBAL PRINTED SENSORS MARKET VALUE, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 31 GLOBAL PRINTED DISPLAY EQUIPMENT MARKET, BY TECHNOLOGY, 2012 - 2020 (\$MILLION)

TABLE 32 GLOBAL PRINTED DISPLAY EQUIPMENT MARKET, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 33 GLOBAL PRINTED DISPLAY MARKET VALUE, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 34 GLOBAL E-PAPER DISPLAY MARKET VALUE, BY TECHNOLOGY, 2012 - 2020 (\$MILLION)

TABLE 35 GLOBAL ELECTROPHORETIC DISPLAYS MARKET VALUE, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 36 GLOBAL ELECTROCHROMIC DISPLAYS MARKET VALUE, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 37 GLOBAL OTHER E-PAPER DISPLAYS MARKET VALUE, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 38 COMPARISON ANALYSIS OF DIFFERENT E-PAPER TECHNOLOGIES

TABLE 39 GLOBAL OLED DISPLAYS MARKET VALUE, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 40 COMPARISON ANALYSIS OF E-PAPER DISPLAY AND OLED

TABLE 41 GLOBAL PRINTED BATTERIES EQUIPMENT MARKET, BY TECHNOLOGY, 2012 - 2020 (\$MILLION)

TABLE 42 GLOBAL PRINTED BATTERIES EQUIPMENT MARKET, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 43 GLOBAL PRINTED BATTERIES MARKET VALUE, BY VOLTAGE, 2012 - 2020 (\$MILLION)

TABLE 44 GLOBAL PRINTED BATTERIES MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$MILLION)

TABLE 45 GLOBAL PRINTED BATTERIES MARKET VALUE, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 46 GLOBAL PRINTED RFID EQUIPMENT MARKET, BY TECHNOLOGY, 2012 - 2020 (\$MILLION)

TABLE 47 GLOBAL PRINTED RFID EQUIPMENT MARKET, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 48 GLOBAL PRINTED RFID MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$MILLION)

TABLE 49 GLOBAL PRINTED RFID MARKET VALUE, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 50 GLOBAL LIGHTING EQUIPMENT MARKET, BY TECHNOLOGY, 2012 - 2020 (\$MILLION)

TABLE 51 GLOBAL PRINTED LIGHTING EQUIPMENT MARKET, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 52 GLOBAL PRINTED LIGHTING MARKET VALUE, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 53 GLOBAL PRINTED PVS EQUIPMENT MARKET, BY TECHNOLOGY, 2012 - 2020 (\$MILLION)

TABLE 54 GLOBAL PRINTED PVS EQUIPMENT MARKET, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 55 GLOBAL PRINTED PVS MARKET, BY APPLICATION, 2012 - 2020 (\$MILLION)

TABLE 56 GLOBAL PRINTED PVS MARKET, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 57 GLOBAL OTHERS EQUIPMENT MARKET, BY TECHNOLOGY, 2012 - 2020 (\$MILLION)

TABLE 58 GLOBAL OTHERS EQUIPMENT MARKET, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 59 GLOBAL OTHERS MARKET, BY GEOGRAPHY, 2012 - 2020 (\$MILLION)

TABLE 60 GLOBAL FUNCTIONAL COATINGS MARKET, BY TYPE, 2012 - 2020 (\$MILLION)

TABLE 61 GLOBAL CONDUCTIVE COATINGS MARKET VALUE, BY MATERIAL, 2012 - 2020 (\$MILLION)

TABLE 62 GLOBAL CONDUCTIVE COATINGS MARKET VALUE, BY APPLICATIONS, 2012 - 2020 (\$MILLION)

TABLE 63 GLOBAL CONFORMAL COATINGS MARKET OVERVIEW, 2012 - 2020 (\$MILLION)

TABLE 64 CHARACTERISTICS: CONFORMAL COATING

TABLE 65 GLOBAL CONFORMAL COATINGS MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$MILLION)

TABLE 66 GLOBAL FUNCTIONAL PRINTING EQUIPMENT MARKET VALUE, BY GEOGRAPHY, 2012 - 2020 (\$BILLION)

TABLE 67 NORTH AMERICA: FUNCTIONAL PRINTING EQUIPMENT MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$MILLION)

TABLE 68 EUROPE: FUNCTIONAL PRINTING EQUIPMENT MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$MILLION)

TABLE 69 APAC: FUNCTIONAL PRINTING EQUIPMENT MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$MILLION)

TABLE 70 ROW: FUNCTIONAL PRINTING EQUIPMENT MARKET VALUE, BY APPLICATION, 2012 - 2020 (\$MILLION)

TABLE 71 KEY MANUFACTURERS: EQUIPMENT AND TECHNOLOGY, 2013

TABLE 72 KEY SUPPLIERS: INKS AND COATINGS, 2013

TABLE 73 KEY PLAYERS: SCREEN PRINTING, 2013

TABLE 74 KEY PLAYERS: INKJET PRINTING, 2013

TABLE 75 KEY PLAYERS: GRAVURE PRINTING, 2013

TABLE 76 KEY PLAYERS: FLEXOGRAPHY PRINTING, 2013

TABLE 77 KEY PLAYERS: PRINTED ELECTRONICS, 2013

TABLE 78 FUNCTIONAL PRINTING MARKET: NEW PRODUCT LAUNCHES, 2009 - 2013

TABLE 79 FUNCTIONAL PRINTING MARKET: PARTNERSHIP, AGREEMENTS, COLLABORATIONS AND STRATEGIC COOPERATIONS, 2009 - 2013

TABLE 80 FUNCTIONAL PRINTING MARKET: MERGERS & ACQUISITIONS, 2009 - 2013

TABLE 81 FUNCTIONAL PRINTING MARKET: OTHER DEVELOPMENTS, 2008 - 2013

## List Of Figures

### LIST OF FIGURES

FIGURE 1 FUNCTIONAL PRINTING MARKET SEGMENTATION

FIGURE 2 MARKET RESEARCH METHODOLOGY

FIGURE 3 MARKET SIZE ESTIMATION OF FUNCTIONAL PRINTING

FIGURE 4 MARKET CRACKDOWN & DATA TRIANGULATION

FIGURE 5 FUNCTIONAL PRINTING MARKET SEGMENTATION

FIGURE 6 ROADMAP OF FUNCTIONAL PRINTING

FIGURE 7 FUNCTIONAL PRINTING: VALUE CHAIN ANALYSIS

FIGURE 8 FUNCTIONAL PRINTING MARKET: IMPACT ANALYSIS OF MARKET DRIVERS, 2013 - 2020

FIGURE 9 FUNCTIONAL PRINTING MARKET: IMPACT ANALYSIS OF MARKET RESTRAINTS, 2013 - 2020

FIGURE 10 FUNCTIONAL PRINTING MARKET: IMPACT ANALYSIS OF MARKET OPPORTUNITIES, 2013 - 2020

FIGURE 11 PORTER'S FIVE FORCES ANALYSIS FOR FUNCTIONAL PRINTING MARKET

FIGURE 12 DEGREE OF COMPETITION IN FUNCTIONAL PRINTING MARKET

FIGURE 13 BUYER'S BARGAINING POWER IN FUNCTIONAL PRINTING MARKET

FIGURE 14 SUPPLIER'S BARGAINING POWER IN FUNCTIONAL PRINTING MARKET

FIGURE 15 THREAT FROM SUBSTITUTES IN FUNCTIONAL PRINTING MARKET

FIGURE 16 THREAT OF NEW ENTRANTS IN FUNCTIONAL PRINTING MARKET

FIGURE 17 FUNCTIONAL PRINTING: TYPES OF MATERIALS

FIGURE 18 FUNCTIONAL PRINTING: PRINTING TECHNOLOGIES

FIGURE 19 INKJET PRINTING TECHNOLOGY

FIGURE 20 FUNCTIONAL PRINTING TECHNOLOGY: APPLICATIONS

FIGURE 21 TRADITIONAL SENSOR MAKING PROCESS

FIGURE 22 PRINTED SENSOR MAKING PROCESS

FIGURE 23 GLOBAL PRINTED SENSORS MARKET VALUE, 2012 - 2020 (\$MILLION)

FIGURE 24 MAJOR CHALLENGES IN PRINTING SENSORS

FIGURE 25 TYPES OF DISPLAY

FIGURE 26 GLOBAL PRINTED DISPLAY MARKET VALUE, 2012 - 2020 (\$MILLION)

FIGURE 27 GLOBAL PRINTED BATTERIES MARKET VALUE, 2012 - 2020 (\$MILLION)

FIGURE 28 GLOBAL PRINTED RFID MARKET VALUE, 2012 - 2020 (\$MILLION)

FIGURE 29 GLOBAL PRINTED LIGHTING MARKET VALUE, 2012 - 2020 (\$MILLION)



FIGURE 30 GLOBAL PRINTED PVS MARKET VALUE, 2012 - 2020 (\$MILLION)

FIGURE 31 GLOBAL OTHERS MARKET VALUE, 2012 - 2020 (\$MILLION)

FIGURE 32 FUNCTIONAL PRINTING: TYPES OF COATING

FIGURE 33 FUNCTIONAL PRINTING MARKET: BY GEOGRAPHY

FIGURE 34 GLOBAL MARKET SHARE ANALYSIS FOR PRINTING TECHNIQUES  
(2013 AND 2020)

FIGURE 35 GLOBAL FUNCTIONAL PRINTING MARKET SHARE, BY GROWTH  
STRATEGIES, 2009 - 2013

FIGURE 36 AVERY DENNISON CORPORATION: COMPANY SNAPSHOT

FIGURE 37 AVERY DENNISON CORPORATION: MAJOR OPERATING SEGMENTS

FIGURE 38 AVERY DENNISON CORPORATION: SWOT ANALYSIS

FIGURE 39 BASF SE: COMPANY SNAPSHOT

FIGURE 40 BLUE SPARK TECHNOLOGIES INC.: PRODUCT PORTFOLIO

FIGURE 41 DURATECH INDUSTRIES INC.: MAJOR OPERATION SEGMENTS

FIGURE 42 E INK HOLDINGS INC.: COMPANY SNAPSHOT

FIGURE 43 E INK HOLDINGS INC.: PRODUCT CATEGORIES

FIGURE 44 EASTMAN KODAK COMPANY: COMPANY SNAPSHOT

FIGURE 45 EASTMAN KODAK COMPANY: SWOT ANALYSIS

FIGURE 46 GSI TECHNOLOGIES LLC: PRODUCT CLASSIFICATION

FIGURE 47 ISORG: PRODUCT PORTFOLIO

FIGURE 48 ISORG: PHOTO DETECTOR ON PLASTIC

FIGURE 49 ISORG: LARGE AREA IMAGE SENSOR

FIGURE 50 MARK ANDY, INC.: PRODUCTS PORTFOLIO

FIGURE 51 NANOSOLAR, INC.: APPLICATION SEGMENTS

FIGURE 52 NANOSOLAR, INC.: SWOT ANALYSIS

FIGURE 53 NOVALED AG: PRODUCT PORTFOLIO

FIGURE 54 OPTOMECH, INC.: PRODUCT PORTFOLIO

FIGURE 55 PARC: SWOT ANALYSIS

FIGURE 56 TOPPAN FORMS CO LTD: COMPANY SNAPSHOT

FIGURE 57 TOPPAN FORMS CO LTD: MAJOR BUSINESS SEGMENTS

FIGURE 58 PRINTING BUSINESS SEGMENT: PRODUCT PORTFOLIO

FIGURE 59 TOYO INK SC HOLDINGS CO LTD: COMPANY SNAPSHOT

FIGURE 60 TOYO INK SC HOLDINGS CO LTD.: MAJOR OPERATING SEGMENTS

FIGURE 61 XAAR PLC: COMPANY SNAPSHOT

FIGURE 62 XAAR PLC: MAJOR BUSINESS SEGMENTS

FIGURE 63 XENNIA TECHNOLOGY LTD.: PRODUCT PORTFOLIO

## I would like to order

Product name: Functional Printing Market (2013 – 2020) by Materials (Substrate, Inks), Technology (Inkjet, Screen, Flexo, Gravure), Application (Sensors, Displays, Batteries, RFID, Lighting, PV, Medical), and Geography (North America, Europe, APAC, ROW)

Product link: <https://marketpublishers.com/r/FE41B8DD645EN.html>

Price: US\$ 5,650.00 (Single User License / Electronic Delivery)

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

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/FE41B8DD645EN.html>

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**

Customer signature \_\_\_\_\_

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

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