+44 20 8123 2220
info@marketpublishers.com

# Global Markets for Roll-to-Roll Technologies for Flexible Devices

https://marketpublishers.com/r/G91B3D8FE01EN.html
Date: February 2022
Pages: 156
Price: US$ 2,750.00 (Single User License)
ID: G91B3D8FE01EN

## Abstracts

Report Scope:

This report provides an updated review of R2R technologies for flexible devices, including a description of various device types and R2R fabrication processes, and identifies current and emerging devices fabricated using R2R technologies.

BCC Research delineates the current market status for these products, defines trends, and presents growth forecasts for the next five years. The R2R technologies for flexible devices market is based on the following segments: process category, substrate material, deposition method, 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 R2R technologies for flexible devices are provided, including an outline of recent events. This section identifies devices that are currently commercially available or emerging and offers a description of the main types. The second section provides a technological review of the fabrication steps used to manufacture R2R flexible devices, with an outline of the most common processes. This section concludes with an analysis of the most important technological developments since 2018, including examples of significant patents recently issued or applied. 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 of R2R technologies for flexible

devices. Global revenues (sales data in millions of dollars) are presented for each segment (process category, substrate material, deposition method, application, and region), with actual data referring to the years 2020 and 2021 and estimates for 2022. Dollar figures refer to sales of flexible devices by R2R at the manufacturing level.

The analysis of current revenues for R2R technologies for flexible devices 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 R2R technologies for flexible devices within each segment, together with forecast compound annual growth rates (CAGRs) for the period 2021 through 2026. 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 R2R technologies for flexible devices, 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 materials, fabrication methods, equipment, and applications for R2R flexible devices. Patent analysis is performed by region, country, and assignee.

Report Includes:

50 data tables and 27 additional tables

An overview of the global market for roll-to-roll technologies for flexible devices

Estimation of the market size and analyses of global market trends, with data from 2020, 2021, estimates for 2022, 2024, with projections of compound annual growth rates (CAGRs) through 2026

Description of roll-to-roll and batch processes, discussion on importance of flexible devices and R2R processes, and assessment of current and emerging flexible devices produced by roll-to-roll technologies

Coverage of milestones in the history of R2R flexible devices and recent events

+44 20 8123 2220
info@marketpublishers.com

of the industry and highlights of the market potential for roll-to-roll technologies for flexible devices market, based on technology, process category, deposition method, substrate materials, application, and region

Market share analysis of the key companies of the industry and coverage of their proprietary technologies, strategic alliances, and other key market strategies and a relevant patent analysis

Comprehensive company profiles of the leading players, including 3M, Career Technologies, Fujikura Ltd., Johnson Electric Holdings Ltd., Interflex Co. Ltd. and Career Technologies

+44 20 8123 2220
info@marketpublishers.com

# Contents

**CHAPTER 1 INTRODUCTION**

Introduction
Study Goals and Objectives
Reasons for Doing This Study
Scope of Report
Information Sources
What's New in this Update?
Methodology
Geographic Breakdown
Analyst's Credentials
BCC Custom Research
Related BCC Research Reports

**CHAPTER 2 EXECUTIVE SUMMARY AND HIGHLIGHTS**

Executive Summary

**CHAPTER 3 INDUSTRY OUTLOOK**

Value Chain Analysis
Research and Technology Development
R2R Technology Integrators
R2R Technology End-use Implementors
Market Dynamics
Market Drivers
Market Restraints
Market Opportunities
PESTEL Analysis
Impact of COVID-19

**CHAPTER 4 MARKET AND TECHNOLOGY BACKGROUND**

Overview
R2R versus Batch Processes
Importance of Flexible Devices and R2R Processes
Milestones in the History of R2R Flexible Devices and Recent Events

Current and Emerging Flexible Devices Produced by R2R Technologies
Electronic Devices
Optoelectronic Devices
Energy Devices
Sensors and Other Devices

**CHAPTER 5 MARKET BREAKDOWN BY TECHNOLOGY**

Overview
Basic Roll-to-Roll Fabrication Process
Substrate Selection
Film Deposition and Patterning
Curing
Assembly, Cutting, Finishing, Testing and Packaging
Latest Technological Developments, 2016–Present
Microelectromechanical Systems Fabricated with R2R Processing
Fabrication of Flexible Mycelial Composite Surfaces
Fabrication of Graphene by R2R Process
R2R Large Scale Manufacturing of Wireless Nanosensor Systems
R2R Hybrid Plasma Modular Coating System
Barrier Layers by R2R Processing
Other Relevant R&D Activities

**CHAPTER 6 MARKET BREAKDOWN BY PROCESS CATEGORY**

Overview
Subtractive Method
Additive Method

**CHAPTER 7 MARKET BREAKDOWN BY DEPOSITION METHOD**

Overview
Thick Film
Thin Film

**CHAPTER 8 MARKET BREAKDOWN BY SUBSTRATE MATERIAL**

Overview
Polyimide

Other Polymers
Metals
Other Materials

**CHAPTER 9 MARKET BREAKDOWN BY APPLICATION**

Overview
Automotive
Energy
Consumer Electronics
Healthcare
Optoelectronics
Others

**CHAPTER 10 MARKET BREAKDOWN BY REGION**

Overview
North America
Europe
Asia-Pacific
Latin America
Middle East and Africa

**CHAPTER 11 COMPETITIVE LANDSCAPE**

Vendor Landscape
Market Ranking Analysis
Leading Manufacturers of Flexible Devices by R2R Technologies

**CHAPTER 12 PATENT ANALYSIS**

Introduction
Summary of Recently Awarded Patents
General Trends
Trends by Country and Region

**CHAPTER 13 COMPANY PROFILES**

3M

+44 20 8123 2220
info@marketpublishers.com

ASCENT SOLAR TECHNOLOGIES INC.
AU OPTRONICS CORP.
APPLIED MATERIALS INC.
CAREER TECHNOLOGIES (MFG.) CO. LTD.
E INK HOLDINGS INC.
FLEXIUM INTERCONNECT INC.
FUJIKURA LTD.
INTERFLEX CO. LTD.
JOHNSON ELECTRIC HOLDINGS LTD.

## CHAPTER 14 APPENDIX

+44 20 8123 2220
info@marketpublishers.com

# List Of Tables

## LIST OF TABLES

Summary Table: Global Market for R2R Technologies for Flexible Devices, by Process Category, Through 2026
Table 1: PESTEL Analysis of the Global Market for R2R Technologies for Flexible Device
Table 2: Global Market for R2R Technologies for Flexible Devices, by Deposition Method, Through 2026
Table 3: Technological Milestones for Global Market for R2R Technologies for Flexible Devices
Table 4: Global Patent Applications and Patents Issued for Flexible Devices, 1970-2021
Table 5: Electrochromic Materials Class Type, 2020
Table 6: Application of R2R Technologies for Developing Solar Cells/Panels, 2020
Table 7: Types of Substrate Materials Utilized for R2R Manufacturing, 2020
Table 8: Thick Film Coating Technologies, 2020
Table 9: Lithographic Methods, by Resolution, 2020
Table 10: Thin Film Coating Technologies, 2020
Table 11: Thin Film Printing Technologies, 2020
Table 12: Other Relevant R&D Activities, 2020
Table 13: Global Market for R2R Technologies for Flexible Devices, by Process Category, Through 2026
Table 14: Global Market for R2R Technologies for Flexible Devices, by Subtractive Method, Through 2026
Table 15: Global Market for R2R Technologies for Flexible Devices, by Additive Method, Through 2026
Table 16: Global Market for R2R Technologies for Flexible Devices, by Deposition Method, Through 2026
Table 17: Global Market for R2R Technologies for Thick Film Flexible Devices, by Region, Through 2026
Table 18: Global Market for R2R Technologies for Thin Film Flexible Devices, by Region, Through 2026
Table 19: Global Market for R2R Technologies for Flexible Devices, by Substrate Material, Through 2026
Table 20: Global Market for R2R Technologies for Polyimide-Based Flexible Devices, by Application, Through 2026
Table 21: Global Market for R2R Technologies for Other Polymer-Based Flexible Devices, by Application, Through 2026

Table 22: Global Market for R2R Technologies for Metal Substrate Based Flexible Devices, by Application, Through 2026
Table 23: Global Market for R2R Technologies for Other Substrate Materials Based Flexible Devices, by Application, Through 2026
Table 24: Global Market for R2R Technologies for Flexible Devices, by Application, Through 2026
Table 25: Global Market for R2R Flexible Devices for Automotive Applications, by Region, Through 2026
Table 26: Global Market for R2R Flexible Devices for Energy Applications, by Region, Through 2026
Table 27: Global Market for R2R Flexible Devices for Consumer Electronics Applications, by Region, Through 2026
Table 28: Global Market for R2R Flexible Devices for Healthcare Applications, by Region, Through 2026
Table 29: Global Market for R2R Flexible Devices for Optoelectronics Applications, by Region, Through 2026
Table 30: Global Market for R2R Flexible Devices for Other Applications, by Region, Through 2026
Table 31: Global Market for R2R Technologies for Flexible Devices, by Region, Through 2026
Table 32: North American Market for R2R Technologies for Flexible Devices, by Country, Through 2026
Table 33: North American Market for R2R Technologies for Flexible Devices, by Deposition Method, Through 2026
Table 34: North American Market for R2R Technologies for Flexible Devices, by Application, Through 2026
Table 35: European Market for R2R Technologies for Flexible Devices, by Country, Through 2026
Table 36: European Market for R2R Technologies for Flexible Devices, by Deposition Method, Through 2026
Table 37: European Market for R2R Technologies for Flexible Devices, by Application, Through 2026
Table 38: Asia-Pacific Market for R2R Technologies for Flexible Devices, by Country, Through 2026
Table 39: Asia-Pacific Market for R2R Technologies for Flexible Devices, by Deposition Method, Through 2026
Table 40: Asia-Pacific Market for R2R Technologies for Flexible Devices, by Application, Through 2026
Table 41: Latin American Market for R2R Technologies for Flexible Devices, by

Country, Through 2026
Table 42: Latin American Market for R2R Technologies for Flexible Devices, by Deposition Method, Through 2026
Table 43: Latin American Market Shares of R2R Technologies for Flexible Devices, by Application, Through 2026
Table 44: Middle Eastern and African Market for R2R Technologies for Flexible Devices, by Deposition Method, Through 2026
Table 45: Middle Eastern and African Market for R2R Technologies for Flexible Devices, by Application, Through 2026
Table 46: Global Market for R2R Technologies for Flexible Devices Vendor Landscape
Table 47: Top Five Key Market Players in the R2R Technologies Market for Flexible Devices, and 2020 Ranking
Table 48: Leading Manufacturers of Flexible Devices, by R2R Technologies, 2020
Table 49: Leading Manufacturers of Flexible Devices by R2R Technology Category, 2020
Table 50: U.S. Patents Related to R2R Flexible Devices, 2021
Table 51: U.S. Patents Related to R2R Flexible Devices, 2020
Table 52: U.S. Patent Trends for R2R Flexible Devices, Through 2021
Table 53: U.S. Patents Related to R2R Flexible Devices, by Region, 2020-2021
Table 54: U.S. Patents Related to R2R Flexible Devices, by Assignee Country, 2020 and 2021
Table 55: 3M: Financial Overview, 2018-2020
Table 56: 3M: Product Benchmarking
Table 57: Ascent Solar Technologies Inc.: Financial Overview, 2018-2020
Table 58: Ascent Solar Technologies Inc.: Product Benchmarking
Table 59: AU Optronics Corp.: Financial Overview, 2018-2020
Table 60: AU Optronics Corp.: Product Benchmarking
Table 61: Applied Materials Inc.: Financial Overview, 2018-2020
Table 62: Applied Materials Inc.: Product Benchmarking
Table 63: Career Technologies: Financial Overview, 2018-2020
Table 64: Career Technologies: Product Benchmarking
Table 65: E Ink Holdings Inc.: Financial Overview, 2018-2020
Table 66: E Ink Holdings Inc.: Product Benchmarking
Table 67: Flexium Interconnect Inc.: Financial Overview, 2018-2020
Table 68: Flexium Interconnect Inc.: Product Benchmarking
Table 69: Fujikura Ltd.: Financial Overview, 2018-2020
Table 70: Fujikura Ltd.: Product Benchmarking
Table 71: Interflex Co. Ltd.: Financial Overview, 2020
Table 72: Interflex Co. Ltd.: Product Benchmarking

+44 20 8123 2220
info@marketpublishers.com

Table 73: Johnson Electric Holdings Ltd.: Financial Overview, 2018-2020
Table 74: Johnson Electric Holdings Ltd.: Product Benchmarking
Table 75: Acronyms Used in the Market for R2R Technologies for Flexible Devices
Table 76: Glossary of Terms Used in Market for R2R Technologies for Flexible Devices

+44 20 8123 2220
info@marketpublishers.com

# List Of Figures

## LIST OF FIGURES

Summary Figure: Global Market Shares of R2R Technologies for Flexible Devices, by Process Category, 2020
Figure 1: Value Chain Analysis of the Global Market for R2R Technologies for Flexible Devices
Figure 2: Global Market Trends for R2R Technologies for Flexible Devices
Figure 3: Manufacturing Cost Optimization of R2R Technologies
Figure 4: Global Market Shares of R2R Technologies for Flexible Devices, by Deposition Method, 2020
Figure 5: Global Patent Applications and Patents Issued for Flexible Devices, 1970-2021
Figure 6: Global Market Shares of R2R Technologies for Flexible Devices, by Process Category, 2020
Figure 7: Global Market Shares of R2R Technologies for Flexible Devices, by Subtractive Method, 2020
Figure 8: Global Market Shares of R2R Technologies for Flexible Devices, by Additive Method, 2020
Figure 9: Global Market Shares of R2R Technologies for Flexible Devices, by Deposition Method, 2020
Figure 10: Global Market Shares of R2R Technologies for Thick Film Flexible Devices, by Region, 2020
Figure 11: Global Market Shares of R2R Technologies for Thin Film Flexible Devices, by Region, 2020
Figure 12: Global Market Shares of R2R technologies for Flexible Devices, by Substrate Material, 2020
Figure 13: Global Market Shares of R2R Technologies for Polyimide Based Flexible Devices, by Application, 2020
Figure 14: Global Market Shares of R2R Technologies for Other Polymers Based Flexible Devices, by Application, 2020
Figure 15: Global Market Shares of R2R Technologies for Metal Substrate Based Flexible Devices, by Application, 2020
Figure 16: Global Market Shares of R2R Technologies for Other Substrate Materials Based Flexible Devices, by Application, 2020
Figure 17: Global Market Shares of R2R Technologies for Flexible Devices, by Application, 2020
Figure 18: Global Market Shares of R2R Flexible Devices for Automotive Applications,

by Region, 2020
Figure 19: Global Market Shares of R2R Flexible Devices for Energy Applications, by Region, 2020
Figure 20: Global Market Shares of R2R Flexible Devices for Consumer Electronics Applications, by Region, 2020
Figure 21: Global Market Shares of R2R Flexible Devices for Healthcare Applications, by Region, 2020
Figure 22: Global Market Shares of R2R Flexible Devices for Optoelectronics Applications, by Region, 2020
Figure 23: Global Market Shares of R2R Flexible Devices for Other Applications, by Region, 2020
Figure 24: Global Market Shares of R2R Technologies for Flexible Devices, by Region, 2020
Figure 25: North American Market Shares of R2R Technologies for Flexible Devices, by Country, 2020
Figure 26: North American Market Shares of R2R Technologies for Flexible Devices, by Deposition Method, 2020
Figure 27: North American Market Shares of R2R Technologies for Flexible Devices, by Application, 2020
Figure 28: European Market Shares of R2R Technologies for Flexible Devices, by Country, 2020
Figure 29: European Market Shares of R2R Technologies for Flexible Devices, by Deposition Method, 2020
Figure 30: European Market Shares of R2R Technologies for Flexible Devices, by Application, 2020
Figure 31: Asia-Pacific Market Shares of R2R Technologies for Flexible Devices, by Country, 2020
Figure 32: Asia-Pacific Market Shares of R2R Technologies for Flexible Devices, by Deposition Method, 2020
Figure 33: Asia-Pacific Market Shares of R2R Technologies for Flexible Devices, by Application, 2020
Figure 34: Latin American Market Shares of R2R Technologies for Flexible Devices, by Country, 2020
Figure 35: Latin American Market Shares of R2R Technologies for Flexible Devices, by Deposition Method, 2020
Figure 36: Latin American Market Shares of R2R Technologies for Flexible Devices, by Application, 2020
Figure 37: Middle Eastern and African Market Shares of R2R Technologies for Flexible Devices, by Deposition Method, 2020

+44 20 8123 2220
info@marketpublishers.com

Figure 38: Middle Eastern and African Market Shares of R2R Technologies for Flexible Devices, by Application, 2020
Figure 39: U.S. Patent Trends for R2R Flexible Devices, 2010-2021
Figure 40: U.S. Patent Shares of R2R Flexible Devices, by Region, 2020-2021
Figure 41: U.S. Patent Shares of R2R Flexible Devices, by Assignee Country, 2020-2021

+44 20 8123 2220
info@marketpublishers.com

## I would like to order

Product name: Global Markets for Roll-to-Roll Technologies for Flexible Devices
Product link: https://marketpublishers.com/r/G91B3D8FE01EN.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 https://marketpublishers.com/r/G91B3D8FE01EN.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

Custumer 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