

Transparent Electronics Markets - 2012

<https://marketpublishers.com/r/T001CDECA3FEN.html>

Date: November 2011

Pages: 87

Price: US\$ 995.00 (Single User License)

ID: T001CDECA3FEN

Abstracts

In the past few years there has been much talk about “transparent electronics,” but few, if any, attempts to assess the potential size of this market or whether there are genuine opportunities to be found in it. This new NanoMarkets report fills this gap and provides the first assessment of transparent electronics from a commercial – rather than technological – perspective. The report covers both opportunities at the applications and at the materials level.

The report begins with an examination of the applications that have been proposed to date for transparent electronics. Most of these have yet to be commercialized and in this survey we analyze each of the applications with a view to determining whether they have a real chance of generating new business revenues in the near-to-medium term future. Our assessment in this regard is based on how the sectors to which transparent electronics is being addressed have developed in the past and on NanoMarkets’ many years of experience assessing new technologies in the display, solar panel, TFT, and other related technologies.

This report also provides an in-depth assessment of the devices and materials that are likely to be used in transparent electronics. Here again, NanoMarkets is able to bring to the table its long experience of analyzing the market for transparent conductive oxides, a class on which transparent electronics will be highly reliant. The report also includes a revenue forecast and roadmap for transparent electronics for the period: 2012 to 2019.

Contents

EXECUTIVE SUMMARY

- E.1 Two Perspectives on Transparent Electronics: OEM and Device Maker
- E.2 Opportunities in the Transparent Display Market
- E.3 Opportunities in the Smart Windows and Lighting Markets
 - E.3.1 Value-Added Glass
 - E.3.2 The Future of Self-Tinting Windows
- E.4 Opportunities in the Transparent Solar Panel Market
 - E.4.1 PV in Smart Windows
 - E.4.2 Transparency and BIPV
- E.5 Firms to Watch in Transparent Electronics
- E.6 A Roadmap for Transparent Electronics
- E.7 Summary of Eight-Year Forecasts for Transparent Electronics

CHAPTER ONE: INTRODUCTION

- 1.1 Background to this Report
 - 1.1.1 Oxides, Organics and Nanotech: Materials for Transparent Electronics
 - 1.1.2 Real-World Transparent Electronic Applications: From the Future and the Past to the Present
 - 1.1.3 Three Factors That Can Lead to the Commercial Awakening of Transparent Electronics
- 1.2 Objective and Scope of this Report
- 1.3 Methodology of this Report
- 1.4 Plan of this Report

CHAPTER TWO: TECHNOLOGIES AND MATERIALS FOR TRANSPARENT ELECTRONICS

- 2.1 The Materials Set for Transparent Electronics
- 2.2 Substrates and Conductors for Transparent Electronics
 - 2.2.1 Substrate Options for Transparent Electronics
 - 2.2.2 Transparent Conductors for Transparent Electronics
- 2.3 The Commercialization of Transparent Conducting Oxides for Transparent Electronics
 - 2.3.1 n-Type Oxide Transparent Semiconductors
- 2.4 p-Type Transparent Oxide Semiconductors

- 2.4.1 ZnO
- 2.4.2 Tin Oxide
- 2.4.3 Copper Containing Delafossite Materials
- 2.4.4 SCO
- 2.4.5 Rhodium Oxides
- 2.5 Transparent Dielectrics for Transparent TFTs
 - 2.5.1 Gate Dielectrics
 - 2.5.2 Interconnect Dielectrics
- 2.6 Organic Electronics and Transparent Electronics
 - 2.6.1 Conductive Polymers as Transparent Conductors
 - 2.6.2 Transparent OTFTs
 - 2.6.3 A Note on Non-TFT Devices in Transparent Electronic Devices
- 2.7 The Use of Nanomaterials in Transparent Electronics
 - 2.7.1 A Note on Sensors and ZnO Nanostructures
- 2.8 Materials for Self-Tinting Smart Windows
 - 2.8.1 Electrochromic (EC) and Suspended Particle Device (SPD) Technologies
 - 2.8.2 Thermochromic Technologies
- 2.9 Materials for Transparent Solar Panels
 - 2.9.1 Transparent Solar Panels Using c-Si
 - 2.9.2 Transparent Solar Panels Using Thin-Film PV (TFPV)
 - 2.9.3 Transparent Solar Panels Using OPV and DSC
- 2.10 Manufacturing Challenges and Solutions in Transparent Electronics
 - 2.10.1 Thin-Film ZnO Manufacturing
 - 2.10.2 Single-Crystal Oxide Manufacturing
- 2.11 Key Points from this Chapter

CHAPTER THREE: MARKETS FOR TRANSPARENT ELECTRONICS

- 3.1 Applications for Transparent Electronics: Current Thoughts and Trends
- 3.2 Transparent Display Markets
 - 3.2.1 Transparency and the “Crisis” of the Display Industry
 - 3.2.2 LED and EL: The First Transparent Display Technologies
 - 3.2.3 Opportunities for Transparent TFTs in LCD and OLED Backplanes
 - 3.2.4 How Samsung is Bringing Transparent Displays into the Active-Matrix Mainstream: Transparent OLED and LCD Displays for Advertising and Point-of-Sale
 - 3.2.5 Could Apple Do for Transparent Displays What It Did for Touch?
 - 3.2.6 Two Other Firms That Are Likely to Influence the Evolution of Transparent Displays: Microsoft and LG
 - 3.2.7 Transparent Overlay Displays, Heads-Up Displays and Integrated On-Glass

Electronics

3.2.8 Even More Applications for Transparent Displays

3.3 Smart Windows and “Transparent Lighting”

3.3.1 Future Value-Added Glass Opportunities: Windows that are also Displays and Lights

3.3.2 The Future of Self-Tinting Windows and Mirrors

3.4 Transparent Solar Panels

3.4.1 PV + Smart Windows: The Ultimate "Green" Window?

3.4.2 Transparency and BIPV

3.5 Transparency and Sensors

3.5.1 Gas Sensors and Oxide Electronics

3.5.2 UV Detectors and Oxide Electronics

3.6 Other Transparent Possibilities for the Future

3.6.1 Batteries

3.6.2 Advanced Optoelectronic Circuitry

3.7 Key Points from this Chapter

CHAPTER FOUR: EIGHT-YEAR MARKET FORECASTS FOR TRANSPARENT ELECTRONICS

4.1 Methodology Used in this Report for Forecasting and Data Collection

4.1.1 Sources of Information

4.2 Forecasts of Transparent Electronics Products

4.2.1 Displays

4.2.2 Smart Windows

4.2.3 Transparent Solar Panels

4.2.4 Sensors and Summary

4.3 Forecasts for Transparent Electronics Materials

Acronyms and Abbreviations Used In this Report

About the Author

List Of Exhibits

LIST OF EXHIBITS

Exhibit E-1: A Provisional Roadmap for Transparent Electronics

Exhibit E-2: Forecast of Transparent Electronics Products by Application (\$ Million)

Exhibit 4-1: Forecast of Transparent Displays by Application

Exhibit 4-2: Forecast of Transparent Displays by Technology (\$ Millions)

Exhibit 4-3: Forecasts of Electrochromic Smart Windows

Exhibit 4-4: Forecasts of Thermo-chromic Smart Windows

Exhibit 4-5: BIPV Glass Installations by PV Technology

Exhibit 4-6: Forecast of Transparent Electronics Products by Application (\$ Million)

Exhibit 4-7: Preliminary Forecast of Selected Transparent Electronics Materials by Type (\$ Million)

I would like to order

Product name: Transparent Electronics Markets - 2012

Product link: <https://marketpublishers.com/r/T001CDECA3FEN.html>

Price: US\$ 995.00 (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/T001CDECA3FEN.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