

## Printed Gold: Gold Ink and Pastes Market - 2011

https://marketpublishers.com/r/PFF477344F1EN.html

Date: September 2011

Pages: 69

Price: US\$ 995.00 (Single User License)

ID: PFF477344F1EN

### **Abstracts**

Although silver inks are expected to maintain a dominant role in printed electronics, gold is expected to account for a profitable niche for ink makers. In a sense, there is nothing new in this gold pastes have been used for quite some time in traditional chip and wired circuits. However, several ink makers and research teams are now taking printed gold to the next stage with the development of nano-gold inks that are being pitched at novel applications ranging from sensors to photovoltaics.

This report assesses and quantifies the applications – new and old – for gold inks and pastes. It examines the products and firms that make up the printed gold business and the marketing strategies that are being used in this interesting sector. The also report contains eight-year market forecasts broken out both by application and by gold ink/paste chemistry and printing technology type. In addition, we consider what the impact of the current very high price of gold will have on the printed gold sector.

This report draws on NanoMarkets ongoing coverage of metallic inks and pastes.



### **Contents**

### **EXECUTIVE SUMMARY**

- E.1 Printed Gold: Current Status and the Price Factor
  - E.1.1 The High Price of Gold: Opportunities for Ink Makers?
- E.2 Gold Pastes: Traditional Markets
- E.3 New Opportunities for Ink Makers
  - E.3.1 Printed Gold Electrode Applications in Organic Electronics
  - E.3.2 MEMS, Gold and Printing
  - E.3.3 Printed Gold for Data Storage and Memory
  - E.3.4 Gold, and Green/Lead-Free Electronics
  - E.3.5 Uses for Printed Gold in Photovoltaics
  - E.3.6 Printing Gold in Sensors
- E.4 Summary of Eight-Year Forecasts of Gold Inks and Pastes in Electronics
- E.5 Firms to Watch

### **CHAPTER ONE: INTRODUCTION**

- 1.1 Background to this Report
  - 1.1.1 The Selling Propositions for Gold: Bondability, Inertness and Nanotech
  - 1.1.2 The Gold Inks and Pastes Market: In the Final Analysis
- 1.2 Objective and Scope of this Report
- 1.3 Methodology of this Report
- 1.4 Plan of this Report

# CHAPTER TWO: GOLD INKS AND PASTES: PRODUCTS, TECHNOLOGIES AND PROCESSES

- 2.1 Gold vs. Copper and Silver for Electronics Applications
  - 2.1.1 All that Conducts is not Silver: Silver vs. Gold
  - 2.1.2 Degrading Copper: Not a Competitor for Gold
  - 2.1.3 Where Gold Can Compete in Electronics: Inertness
  - 2.1.4 Other Metallic Inks as Competitor to Gold Inks
- 2.2 Gold as a Material for Printed Electronics
  - 2.2.1 Impact of the Growth of Printed Electronics
  - 2.2.2 Gold and the Evolution of Printed Electronics
  - 2.2.3 Lessons from the Jewelry Industries and Decorative Gold
  - 2.2.4 Pastes and Inks that Use Gold with Other Metals



- 2.3 Gold Pastes for Thick-film Electronics
  - 2.3.1 Types of Gold Pastes Currently Available: Glass Frit Pastes and Liquid Gold
  - 2.3.2 Future Evolution of Gold Pastes
  - 2.3.3 Supplier Infrastructure for Gold Pastes
- 2.4 Nanogold Inks
  - 2.4.1 The Cost/Performance Tradeoff in Nanogold Inks
  - 2.4.2 Compatibility of Nanogold Inks with Inkjet
  - 2.4.3 Other Substrate-Related Issues for Nanogold Inks
- 2.5 Suppliers of Nanogold Inks
  - 2.5.1 IBM/ETH (U.S. and Switzerland)
  - 2.5.2 Johnson Matthey (U.S.)
  - 2.5.3 NanoMas (U.S.)
  - 2.5.4 University of California: Berkeley (U.S.)
  - 2.5.5 University of Melbourne (Australia)
- 2.6 Key Points from this Chapter

# CHAPTER THREE: ELECTRONICS AND RELATED MARKETS FOR GOLD INKS AND PASTES

- 3.1 The R&D Market for Gold Inks
- 3.2 Traditional and Emerging Semiconductor Applications
  - 3.2.1 Traditional Markets for Gold Pastes in Electronics
  - 3.2.2 Opportunities in MEMS?
  - 3.2.3 Data Storage and Memory
  - 3.2.4 Gold, and Green/Lead-Free Electronics
- 3.3 Printed Gold Electrode Applications in Organic Electronics
- 3.4 Printed Gold as a Substitute for ITO
- 3.5 Gold, Printing and Sensors and RFID
  - 3.5.1 Printing in Sensors
  - 3.5.2 Gold, Medical Sensors and Diagnostic Devices
  - 3.5.3 Gold and Automotive Sensors
- 3.6 Uses for Gold Inks and Pastes in Photovoltaics
- 3.7 Related Graphics Applications
- 3.8 Key Points Made in this Chapter

#### CHAPTER FOUR: EIGHT-YEAR FORECASTS

- 4.1 Forecasting Methodology
  - 4.1.1 Sources of Data



- 4.1.2 Implications of the High Price of Gold: Methodology and Market Elasticity
- 4.1.3 Products Forecast
- 4.2 Eight-Year Forecast by Application
  - 4.2.1 Traditional Thick-Film Applications
  - 4.2.2 Sensor Applications
  - 4.2.3 Other Electronic Applications
- 4.3 Eight-year Forecast by Ink/Paste Type
- 4.4 Eight-Year Forecast by Printing Technology Used

Acronyms and Abbreviations Used in this Report

About the Author



## **List Of Exhibits**

### **LIST OF EXHIBITS:**

- Exhibit E-1: Eight-Year Forecasts of Gold Ink/Paste Markets
- Exhibit 2-1: Conductivity of Metals
- Exhibit 2-2: Major Conductors: Rankings of Main Characteristics
- Exhibit 2-3: Comparison of Common Printing Processes
- Exhibit 2-4: Dimension of Competition for Gold Thick-Film Pastes
- Exhibit 2-5: NanoMas Gold Ink Specifications
- Exhibit 4-1: Eight-Year Forecasts of Gold Ink/Paste Markets: Traditional Electronics
- **Applications**
- Exhibit 4-2: Eight-Year Forecasts of Gold Ink/Paste Markets: Sensors
- Exhibit 4-3: Eight-Year Forecasts of Gold Ink/Paste Markets: Other Electronics
- **Applications**
- Exhibit 4-4: Eight-Year Forecasts of Gold Ink/Paste Markets: By Ink-Types
- Exhibit 4-5: Eight-Year Forecasts of Gold Ink/Paste Markets: By Printing Technology



### I would like to order

Product name: Printed Gold: Gold Ink and Pastes Market - 2011

Product link: <a href="https://marketpublishers.com/r/PFF477344F1EN.html">https://marketpublishers.com/r/PFF477344F1EN.html</a>

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 <a href="https://marketpublishers.com/r/PFF477344F1EN.html">https://marketpublishers.com/r/PFF477344F1EN.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