

## OLED Market Tracker

## Next Phase of OLED Volume Production Entails Challenges

By Vinita Jakhanwal, Principal Analyst

**Forecast****Frequency, Time Period**

- 2-year annual historical
- 7-year annual forecast

**Measures**

- Units, ASP, Value

**Markets Covered**

- 20 applications (see below)
- 6 screen sizes

**Detail Level**

- By application, screen size, and drive type (active or passive matrix)

**Technologies Covered**

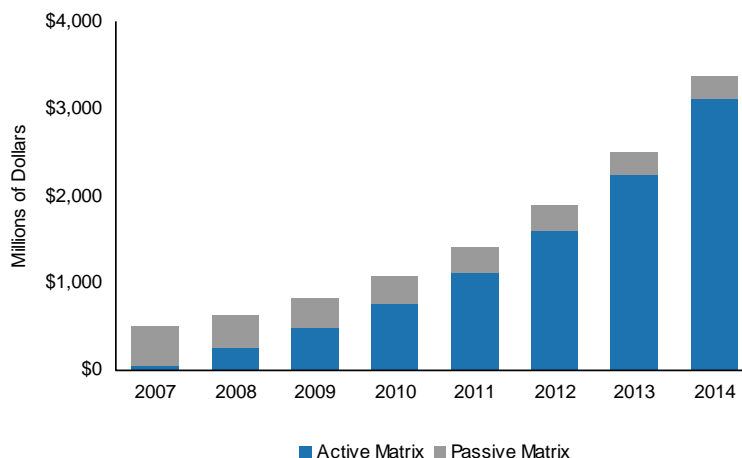
- OLED displays (not lighting or other applications that are not information displays)

**Applications Covered**

- Automotive, camcorders, cameras, commercial transportation, desktop monitors, handheld computers, handheld games, head worn devices, industrial equipment, medical instruments, mobile phones, portable computers, portable DVD/VCD players, television, others

OLED panels have successfully grown to a market size of more than a half-billion dollars. But can it continue? iSuppli's latest research shows that OLED must make the transition from passive matrix to active matrix very soon in order to keep on its growth curve.

The report provides bi-annual analysis of the worldwide OLED display market by application, screen size and drive type (active or passive). Key applications currently using OLEDs and likely to become OLED markets are covered like mobile phones, MP3/PMPs, TVs etc. More than 12 such applications are covered. Clients receive online access to the Adobe Acrobat PDF report file and a MS Excel database file containing 2 year historical and 7 year forecast. Commentary on OLED technology development is included in the PDF file. Additional information like list of OLED products, components and equipment vendors can also be found.

**OLED Panel Market Value, Active vs. Passive, 2007-2014****Critical Questions Answered**

- What is happening in the volatile subdisplay and MP3 markets?
- How can OLED players maximize their continued growth?
- When is AMOLED likely to happen and from which companies?
- Where do the opportunities exist for OLEDs?
- What is the forecasted revenue for OLEDs for the next five years?

**Who Should Use This Tool?**

- Strategic Planning/Business Development
  - OLED Materials Suppliers
  - OLED Module Manufacturers
  - Driver, Package, Component Companies
  - OLED Equipment Makers
- Product Design
  - OLED OEMs
- Financial Analyst
- Military Analyst
- LCD Players

**Lead Analyst****Vinita Jakhanwal, Principal Analyst**

Vinita brings over a decade of market research and consulting experience to iSuppli where she tracks the mobile display market along with following other small and medium-display application markets. Currently she is responsible for forecasting, competitive analysis and supply/demand research for the Mobile Displays Market Tracker and the Small/Medium Display Market Tracker.

Previously, she worked as a Senior Industry Analyst at Frost & Sullivan, where she managed research in logistics and automatic identification. Vinita also worked as a Research Analyst for McKinsey and Co., tracking a variety of industrial sectors, and has experience in corporate and investment analysis.

Vinita received a Master of Economics degree from the Delhi School of Economics, and a Bachelor of Arts in economics from the University of Delhi.

**Sample Table of Contents**

- Executive Summary
- Major Developments
- Market Direction
- Market Forecast Overview
- Market Shares
- Recommendations
- Introduction
- OLED Products
  - Current Panel Products
  - Active-Matrix Plans
- Market Forecast
  - Changes from the H1 2007 Edition
  - Forecast Assumptions
  - Dimensions of the Database
- Analysis by Drive Type
- Analysis by Application
  - Mobile-Phone Subdisplays
  - Mobile-Phone Main Displays
  - Portable Media (MP3/MP4/PMP/DVD)
  - Cameras and Camcorders
  - Auto Displays
  - Television
  - OLED Lighting
- Manufacturing Capacity and Supply/Demand Balance
- Topics in Strategy
  - OLED Intellectual Property
  - Recommendations
- Appendix A: Broad View of the Major Technical Challenges for OLED
- Appendix B: Technical Background of OLED
- Appendix C: OLED Products: Development Timeline

**Figures**

- Worldwide OLED Display Shipment Value by Application
- Worldwide OLED Display Unit Shipments by Application
- OLED Panel Manufacturer Unit Market Shares
- OLED Panel Manufacturer Value Shares
- OLED Panel Market Value, Passive and Active Matrix
- OLED Panel Units, Passive and Active Matrix
- OLED Panel Value with Passive and Active Separated
- Mobile Phone Subdisplay Unit Shipments and Value
- Mobile Phone Subdisplay Unit Shipments and Value by Color
- Mobile-Phone Main Display Unit Shipments and Value, AMOLED vs. PMOLED
- Mobile-Phone Main Display Unit Shipments and Value by Color
- Power Consumption Usage Patterns for LCD and AMOLED in Mobile Phones

- OLED Power Consumption in Mobile Handsets for Different Content
- Portable Media Player Unit Shipments and Value, AMOLED and PMOLED
- Sony XEL-1 AMOLED (11-inch) TV
- Transparent OLED Structure
- Flexible OLED Display Demonstrations
- Basic OLED Device Structure
- Average Power Consumption of AMOLED and AMLCD
- Content-Dependent Power Consumption of 2.4-inch, 200 nit AMOLED and AMLCD
- Chemical Structure of Aluminum Quinolate (Alq3)
- Chemical Structure of P-phenylenevinylenes (PPV)
- OLED Material and Full-color Panel Lifetime Forecast
- Basic OLED Process Flow: Left Side for Small Molecular, Right Side for Polymer 3M and Samsung SDI's LITI Process
- Schemes to Generate Full Color in OLED
- Schematic of RIST Process
- Transparent-Cathode Type (left) and Inverted Type (right) Top-Emitting Structures
- Protective Metal Can Used by Pioneer Thin-film Encapsulation

**Tables**

- Panel Makers by Revenue and Units
- Plans by AMOLED Players
- OLED Applications
- Mobile Handsets with OLED Main Displays
- OLED Manufacturing Capacity
- Kodak and Sumitomo Chemical (CDT) Licensees
- Summary of Broad Technical Challenges Facing OLED Developers
- Comparison of Active-matrix OLED and Active-matrix LCD
- Comparison of PM OLED and PM LCD
- Comparison of Small Molecular and Polymer OLED
- Best Reported Laboratory Lifetime of OLED Material and Full-color Panel Summary
- Comparison of Top Emission and Bottom Emission OLED
- Comparison of Encapsulation Technologies
- Companies That Have Shown AMOLED Prototypes
- Companies Committed to Manufacture AMOLED Display Module as of Mid 2008
- Companies Committed to AMOLED and Which Have Demonstrated Larger Than 10-inch AM OLED