Global demand to grow 12% yearly through 2008

World demand for materials used in flat panel and CRT displays is expected to grow a strong 12 percent per annum through 2008, reaching almost US$22 billion. Gains will improve over the 1998-2003 period, with rapid growth in materials for flat panel displays more than offsetting declines in CRT (cathode ray tube) materials.

Flat panel display materials will benefit from improving economic conditions in developed nations that will both drive increased demand for personal communication devices and notebook computers, and -- along with rapidly falling prices -- accelerate the replacement of the existing installed base of CRT monitors and televisions with newer flat panel alternatives. The replacement trend, however, will also be responsible for continuing losses in demand for CRT materials.

Demand in Asia to become more concentrated

CRT and flat panel material demand will become even more concentrated in the Asia/Pacific region, rising to over 90 percent of total world demand in 2008 as display production increases rapidly in countries such as South Korea, Taiwan and China. Flat panel material demand will be focused in South Korea, Taiwan and Japan, with a growing share in China as well. CRT material demand will be more diffuse worldwide, as some existing CRT production will continue in the Americas and Europe.

Chemicals, coatings and films to grow the fastest

Glass is expected to remain the single largest material component, though growth will be weak in comparison to the rest of the industry as losses in the CRT display market (where glass accounts for a disproportionately large portion of material demand) are barely offset by strong volume-led gains in flat panel glass.

Relative weakness in the glass segment will allow chemicals and coatings and films -- which will be the two fastest growing components due to their much greater use in flat panel displays -- to significantly increase their overall market presence. By 2008 both components will account for about 26 percent of market demand, with chemicals holding a slight advantage.

Material innovations remain essential

Innovation will continue to be essential for all material types, driven by the highly competitive nature of the electronic display industry and increasingly stringent performance requirements. For example, new black matrix photoresists have simplified the production process for liquid crystal displays and helped lower costs. Additionally, the advent of new display technologies with potentially lower production costs and a wider range of applications -- organic light emitting diodes, for example -- is also stimulating rapid material innovation, particularly for color materials.

Study coverage

This 296-page Freedonia industry study, Flat Panel & CRT Display Materials: World Markets, is available for $5100. It provides historical US demand data (1993, 1998, 2003) and forecasts to 2008 and 2013 by product, application, world region and for 12 countries. The study also considers market environment indicators, evaluates company market share and profiles 35 industry players worldwide.

Freedonia’s China office now open; see back page for further details
Taiwan: Display Production

Shipments of electronic displays from facilities located in Taiwan totaled US$12.5 billion in 2003, third largest in the world behind only Japan and South Korea. Moreover, Taiwan’s indigenous display manufacturing industry has mushroomed since the latter 1990s, growing better than threefold between 1998 and 2003 — despite the 2001-2002 slowdown in ICT products demand.

To an even greater extent than South Korea, Taiwan’s rapid emergence as a major electronic display manufacturer is due almost completely to a strong local high-volume LCD segment of the business. Originally established to provide a stable source of supply for the local notebook computer and desktop computer LCD market, the industry rapidly evolved into a global supplier to mobile phone manufacturers who are dependent upon the merchant market for business. The Taiwanese display manufacturers’ focus on the LCD segment is due almost completely to a relentless effort to develop capacity in the TFT-LCD display business — and numerous observers have indicated that the Taiwanese LCD industry is ripe for consolidation and shakeout.

Leading Taiwanese electronic display manufacturers include AU Optronics, Chi Mei Optoelectronics, Chungwha Picture Tubes, HannStar Display and Quanta Display. Although some of these companies produce displays based on other modalities, they all concentrate primarily on the LCD segment. Unlike the large South Korean and Japanese producers which tend to be vertically integrated — and thus have built-in markets for their products — the Taiwanese producers are mainly specialty display manufacturers who are dependent upon the merchant market for business.

Freedonia’s methods involve:

• Establishing consistent economic and market forecasts
• Using input/output ratios, flow charts and other economic methods to quantify data
• Employing in-house analysts who meet stringent quality standards
• Interviewing key industry participants, experts and end-users
• Researching a proprietary database that includes trade publications, government reports and corporate literature

Taiwanese materials suppliers are also gaining a growing presence in the industry. Perhaps the best example of this is Optimax, which is one of the leading suppliers of polarizing films for the display industry. Eternal Chemical has also made a push to provide photoresists for TFT-LCD manufacture. As the display industry in Taiwan matures, additional Taiwanese material suppliers are likely to benefit.

## Other Titles from The Freedonia Group

### Specialty Films
US specialty film demand will rise 5% yearly through 2009 based on conductive and other electronics films and water soluble oral strips. Light control, safety and security, and barrier packaging films will also do well. Polyolefins and PVC films will remain dominant while nylon, polyester, ethylene vinyl alcohol and low volume types lead gains. This study analyzes the $5.8 billion US specialty films industry to 2009 and 2014 by product, application and market. It also evaluates market share and profiles leading firms.

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### World Flat Panel & CRT Displays
World demand for electronic displays will grow 13.2% yearly through 2008, driven by flat panel computer monitors and high-definition flat screen televisions. Liquid crystal displays (LCDs) will grow the fastest, followed by plasma displays and microdisplays, all of which will see double-digit annual gains. This study analyzes the US$61 billion world electronic display industry to 2008 and 2013 by type, application, world region and for 26 countries. It also evaluates market share and profiles leading competitors.

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### Advanced Flat Glass
US demand for advanced flat glass will increase 6.5% annually through 2008. Growth will be driven by architectural smart windows and self-cleaning window glass, and by heads-up display windshields in motor vehicles. More mature products such as low-E glass, security glass and laminated hurricane and fire glass will also do well. This study analyzes the $4.9 billion US advanced flat glass industry to 2008 and 2013 by product and market. It also evaluates market share and profiles leading competitors.

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