Written by

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GLEN ALLEN, VA – Signage manufactured using printed and organic electronics will generate \$2.5 billion by 2015, according to analyst **NanoMarkets**.

Electrophoretic displays, electrochromic displays, cholesteric liquid crystal, field-emission displays, OLEDs, electroluminescent materials and emissive carbon nanotube technology will impact a variety of signage markets ranging from large outdoor billboards to point-of-sale labels, says NanoMarkets. This will offer major opportunities to manufacturers of OLEDs and paper-like displays, as well as the materials, equipment and printing companies that support them. Conventional LCD technology is under pressure from electrophoretic, electrochromic and cholesteric LCD technology in the point-of-purchase display business. These technologies bring the advantages of flexibility, readability in bright sunlight and especially low power consumption, according to the research firm.

Thirty-five million electronic shelf labels are expected to ship in 2008, and by 2015, NanoMarkets projects the printed and organic electronic POP displays business will reach \$1.4 billion in revenues.

NanoMarkets projects the market for organic and printable electronics enabled billboards and large advertising displays will reach \$320 million by 2015. Reflective displays technologies are challenging high brightness LEDs in large area advertising displays. Proponents say such displays make for an easier electronic retrofit for traditional, reflective, hardcopy signs because such signs are usually situated in well-lighted areas. Power benefits are often as much as a 5:1 advantage over inorganic LEDs, says NanoMarkets.

NanoMarkets estimates the market for OLED signage will grow to around \$303 million by 2015. At a time when the OLED industry is struggling with active matrix technology, signage offers an attractive alternative market for backlighting and actual displays. Printed OLED backlights are thin, lightweight, bright, and relatively efficient. They could be the successor to the EL lamp if viable encapsulation technology can be brought to bear and materials and manufacturing costs reduced. OLEDs also offer the essential wide-color spectrum needed for advertising displays where superb printed color graphics are the norm.