



Sidco Labeling Systems

BarCode Hardware, Software & Media

TECHNOLOGY NEWS

Printed Electronics

Printed Electronics is just what it implies—it's the printing of electronic circuitry. It brings together printing and electronics in such a way the gravure, offset, flexo or inkjet processes are used to produce transistors and diodes, which are the building blocks for virtually all electronic products. So says Tom Polischuk, Editor-in-Chief of *packagePrinting* magazine. According to Tom, what printed electronics brings to the picture is the potential for a drastic decrease in the cost of electronic devices, to the point where they can be disposable and ubiquitous—electronics embedded everywhere.

Jack Kenny writes in *Label & Narrow Web*, Printed Electronics – “A new industry, in its embryonic stage today, can shape the future of printing, as well as just about every other industry on the planet”.



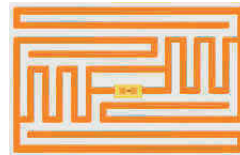
Aveso smart label display

Research is taking place right now at Arizona State University, in conjunction with the US Army to develop new information displays that will deliver high performance. They will be rugged, lightweight, ultra-thin and compact. Such displays already exist in prototype form.

Clemson University has researchers from several different departments working on developing conductive polymer ink systems. This work has attracted allied packaging industries and some large consumer product companies.

The uses for such technology are almost unlimited, and the benefits are numerous. Lighting, displays, batteries, communications devices, sensors – these consume power and raw materials that are expensive today. If the circuitry is printed on a thin substrate, the cost is reduced, the weight is reduced, the disposability might be enhanced, and the ubiquity of the devices will grow.

The list of potential uses appears to include everyone from healthcare and pharmaceutical, security, automotive and aviation, to manufacturing and logistics, retail and of course, the military.

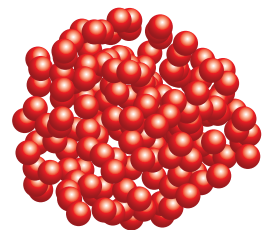


Polischuk sums it up by saying, “Many of the underlying technologies for printed electronics are in their infancy, so it's going to make for a wild (and interesting) ride. There could be huge opportunities for printers willing to take the leap into this hi-tech realm.”

Did you know?

Microcapsules carry vitamins and tell temperatures

According to a recent article in the April 2007 *Medical Design* magazine, Microcapsules filled with delayed release substances can be printed on labels, decals, and textiles using technology developed by the French firm Euracli. Micro encapsulation wraps liquids or solids in a membrane of synthetic or natural polymer, or lipid olates to protect the active ingredient from the environment. These ingredients can be antibacterial agents, vitamins, a cosmetic, or perfumes. Capsule sized vary from 0.5 to 2,000 microns. The encapsulated product releases when the membrane is broken or by diffusing through the membrane.



The company's first label in 1986 showed the temperature of a bottle of wine and used a thermo-sensitive color-changing ink. The ink's formulation is adapted to each product.

For textiles such as bedding, capsules can hold vitamins. Or, on clothing, they could hold a pleasant scent.

INNOVATIVE LABELING & BAR CODE INTEGRATION

www.sidcolabeling.com

Tel: 408-748-9112

Email: info@sidcolabeling.com