

# Smart Technology

CAROL HOUGHTON rounds up the latest news in smart and intelligent labeling



ALPVISION Authenticating a vial label with iPhone



POWERCOAT technology allows paper substrates to be used for printed electronics applications

## SMART FIGHT AGAINST COUNTERFEITS

Increased smartphone usage has led AlpVision to enable consumer-level product verification

AlpVision has updated its product authentication app for the iPhone, which allows users to detect the company's Cryptoglyph 'invisible' mark printed on a label or pack using regular visible ink or varnish and standard printing processes. Enhanced algorithms now allow for better detection of labels on curved surfaces, such as vial labels and labels on wine and spirit bottles.

The invisible Cryptoglyph image contains encrypted information which originally required an off-the-shelf scanner, along with an authentication application installed on a computer, to decrypt it. Since 2012, consumers have been able to scan the safety feature using an iPhone and receive positive authentication within three seconds.

The iPhone app was originally introduced for AlpVision's Fingerprint technology, which tracks and authenticates mass moulded products. It is currently available for the iPhone 4/4S/5 and other mobile operating platforms on request.

AlpVision recently demonstrated the app at IP Protect Expo 2013 in London. Dr Fred Jordan, AlpVision co-founder and CEO, commented: 'Conference participants were surprised that a tool so deceptively simple could be used to perform product authentications and perform well.'

'Brand owners are searching for ways to multiply the number of authentications throughout the supply chain. Smartphones are therefore becoming the tool of choice for product authentication and counterfeit protection.'

## PAPER, THE NEW PLASTIC

Arjowiggins recognized for its PowerCoat formulation for printed electronics

Arjowiggins Creative Papers has received an IDTechEx award for its PowerCoat technology, which allows paper substrates to be used for printed electronics applications.

The judges commented: 'Powercoat from Arjowiggins Creative Papers was selected by the judges because it addresses the

challenges of using paper as a substrate – turning it into a smooth flexible surface while still being 100 percent paper and recyclable. This now makes paper a viable substrate for many printed electronics devices where it may not have been suitable before.'

Powercoat is a cellulosic paper formulation and coating process which enables passive and interactive circuitry to be integrated with existing printed products. This facilitates electronic functions – from embedded RFID tags to condition-sensitive sell-by dates on fresh produce – to be incorporated in graphics.

It is said to offer excellent printability and ink adhesion properties whilst the surface reduces the consumption of expensive silver inks and supports high-resolution fine patterning (down to five  $\mu\text{m}$ ) of any solution-based electronic layer.

Powercoat is also said to eliminate other issues encountered when printing with conductive inks on conventional papers, such as yellowing/color fading and alterations to the physical characteristics of a substrate during sintering – the process which fuses conductive inks to the substrate.

Due to its thermal stability, it can withstand the sintering cycle at 200 deg. C for five minutes, as well as photonic sintering. This allows for higher printing speeds, therefore decreasing production costs whilst improving productivity and efficiency.

It is suitable for roll-to-roll processing and has already been used in disposable labeling and packaging, amongst many other applications. According to Arjowiggins, the applications are limited 'only by the imagination and existing interactive technologies.'

The company added: 'PowerCoat proves paper is just as reliable [as plastic] for printed electronic applications. It outperforms even the best plastics and is recyclable and sustainable. This novel paper has excellent smoothness [as low as 10 nanometers], and higher thermal stability than most PET/PEN plastics'.

## METAIO OPENS NEW R&D OFFICE

Hardware supplier invests in future of Augmented Reality

Metaio is to open a new office in Dallas, Texas, as part of a company-wide initiative to invest resources into research and development of Augmented Reality (AR) core technologies.