

the disruptive technology will play an important part in the industry. In the near-term it will likely become apparent which technologies and techniques in particular are most suitable for commercial uses and scaling.

Blakeway states: 'Imagine the brand recognition available as a woman carrying a product such as designer handbag and, as light strikes the Notes image – possibly located on the side or latch – the image instantly glows, or turns on or off and changes colour, indicating both product authentication and brand recognition in the same stroke. Authentication now becomes a great marketing tool.'

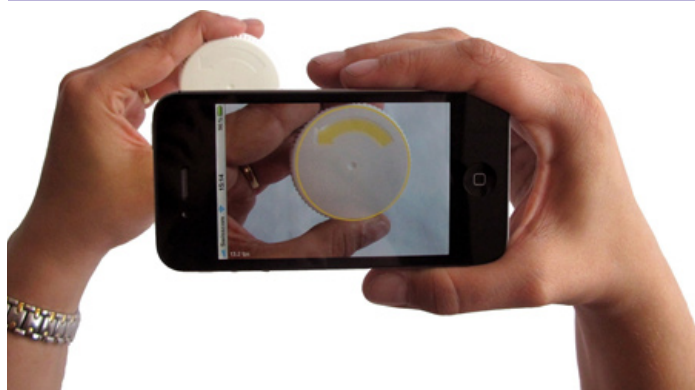
Could plastic packaging protection rival paper?

According to the [World Packaging Organisation](#), plastic alone accounts for 30% of world packaging consumption, which represents the second-largest share of global packaging sales after paper and board packaging.

Just as paper labels, tags and boxes provide brands with a means to add security features to differentiate their products, plastics also have their role to play in brand protection.

[AlpVision](#), a Swiss provider of digital invisible technologies for product authentication and brand protection, and [Nolato Medical](#), a supplier of polymer products and subsystems, are collaborating to develop primary

Authenticating a Nolato medical cap with an iPhone



Source: AlpVision

pharmaceutical packaging that protects against counterfeiting.

The partnership builds on AlpVision's patented Fingerprint technology, which requires no changes to the standard molding practices. The process involves capturing a digital image of the intrinsic microscopic surface irregularities found on most plastic molded products, then using that image as a reference to authenticate an entire product line, such as vials, containers and lids, test tubes, and caps. To perform a genuine-or-fake verification, brand owners can simply use a standard office scanner or an [Apple](#) iPhone.

Currently, AlpVision's Fingerprint solution protects more than 300 million products in the electric power and engineering industry, and the company recently reached 1 million protected products in the pharmaceutical industry.

Fred Jordan, CEO of AlpVision, remarks: '[Fingerprint] applies to a variety of industries: pharmaceuticals, electrical, automotive, oil and gas, apparel,

agricultural, food and beverage, and so on. The technology suits most molded products and parts available on the market today, such as plastic packaging, flip-off vial seals, medical devices, electrical appliances, mechanical parts, and footwear items, among others.'

Costs are kept down as there is no change to either the mold or molding process.

The properties of innovative plastic technologies could also be exploited to make the materials themselves play an active role in a brand protection technique. [Bayer MaterialScience](#) and the [BAM Federal Institute for Materials Research and Testing](#) in Germany have developed shape memory polymers that could be used for anti-counterfeit purposes.

Thorsten Pretsch, an expert in shape memory polymer research, says the patented SMP Tagnologies may be useful for manufactures of brand products.

He says: 'In principle, our smart tags can be used for the secure one-time identification of

a brand product, pharmaceutical product, mechanical part or even a sculpture or painting.'

The triggering of the shape memory occurs when the polymer is heated above a switching temperature (for instance, 40°C) and only then would a QR code be decipherable, allowing users to switch a code carrier from non-readable to readable on demand.

Pretsch adds: 'I simply do not know any other technology able to do this. The attractiveness of SMP Tagnologies also relies on the fact that the concept is not restricted to QR codes; it can easily be expanded to other codes, characters, logos and more.'

BAM first concentrated on bringing in 2D codes like QR into the polymer surface. The research demonstrated that there are certain thermo-mechanical functionalisation routes that can be used to stabilise the plastics in various strongly distorted shapes with non-decipherable codes.

Says Pretsch: 'Beyond that, we were able to show that those functionalised information carriers were stable at room temperature, which makes this technology useful for anti-counterfeiting applications. Another important point is that the functionalised polymer exhibits a difficult-to-copy distortion pattern, which depends on a variety of parameters – like laser ablation depth, surface-specific dyeing procedure and

thermo-mechanical functionalisation strategy – which can be set in accordance with a polymer’s physical and mechanical properties.’

Although BAM is currently conducting fundamental research on shape memory polymers, allowing them to directly integrate latest findings into SMP Tagnologies, Pretsch reveals that his personal aim is to commercialise the technology by 2014.

He remarks: ‘Our team in BAM has developed a dyeing procedure based on guest diffusion, which allows us to control the dye diffusion depth in different types of shape memory polymer. Upon dyeing, recognisable features can easily be brought into the polymer surface by means of laser ablation. An adequate surface contrast, which makes the information visible, is achieved by a sufficiently high laser ablation depth, which exceeds the color penetration depth.’

As such features are developed further and proven in field trials, plastics could become an enabler for a new range of brand protection techniques, opening markets for the industry in goods previously using paper-based anti-counterfeit components.

Protecting your brand in emerging markets

Emerging markets are typically more volatile than developed markets, and

although they offer growth opportunities, trademark and counterfeit risks are higher.

Difficulties in the Eurozone and the US, moreover, have resulted in many brands looking to developing markets where there is an increased need for brand protection solutions.

Many anti-counterfeit technology firms are increasing their presence in emerging regions to assist brands as they look to sell products in new markets. Enterprise brand protection firm [MarkMonitor](#) recently extended brand protection capabilities for Asian markets, including China, Japan, Korea, Hong Kong and Taiwan.

MarkMonitor CEO Irfan Salim comments: ‘Companies

with global brand protection strategies that encompass both established and emerging markets drive higher revenue, reduced marketing costs and expanded market share, while improving consumer brand experiences, and fostering increased loyalty.’

In June 2012, [Pitney Bowes](#) launched its intelligent platform called pbSecure, which secures data at the point of origin in India and other growth markets.

The pbSecure is available in all markets in the growth region – which the company identifies as Asia-Pacific, the Middle East, Africa and Latin America.

Eric Yves-Mahe, president of Pitney Bowes’ growth markets division, says: ‘It is an especially

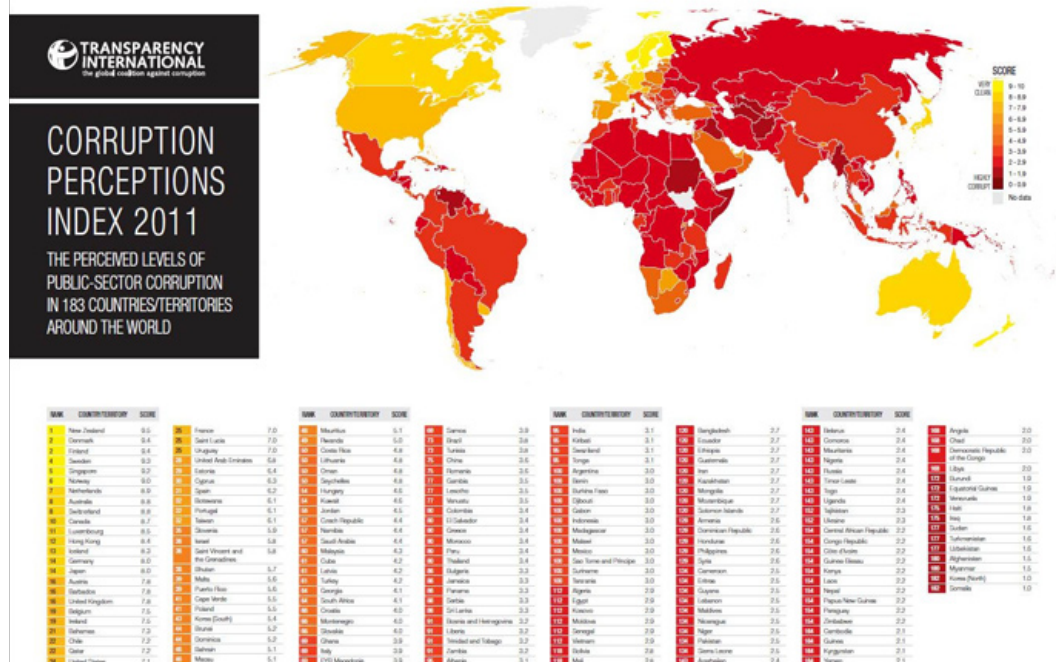
appropriate time to launch in India, due to the high volume of paper-based documental proofs – such as relieving letters, payslips, education diplomas and degrees, and tax receipts – and pbSecure offers a viable and effective solution.’

The Pitney Bowes platform supports multiple product authentications, enabling brand owners, merchants and consumers to verify the authenticity of a product.

Tracking systems within the platform can operate in both online and offline environments, meaning counterfeit detection can take place even when communication tools are limited.

Yves-Mahe explains: ‘For example, pharmaceuticals

Transparency International's 2011 Corruption Perception Index gives an indication of the problems brands will face in emerging markets



Source: [Transparency International](#)