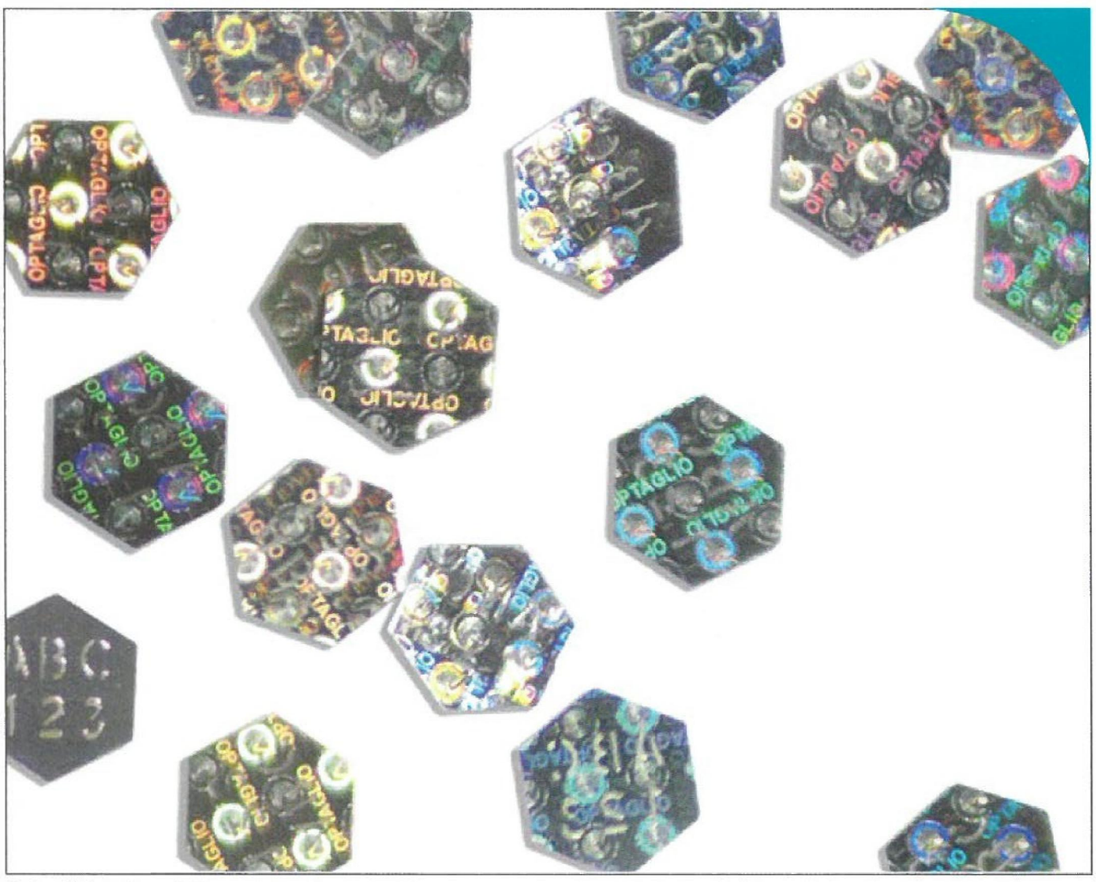
Trio of New Developments from Optaglio



Optaglio's micro-holograms.

Optaglio has recently announced a solution to prevent the alteration of paper documents, and has also declared that 10 million pharmaceutical packets were protected in Q4 of 2017 using micro-holograms. In a separate announcement the company also revealed that a key milestone in its hologram mathematic simulation project has been met to help design smarter holograms.

According to Optaglio, there is a growing need to protect confidential paper based documents: contracts, protocols, reports, minutes and other sensitive documents. Up until now this area has been overlooked as it was believed that the move to trusted digital documents was the way forward.

However, with the recent hacker attacks of digital documents and databases, there has being a growing mistrust in digital document usage that in turn has motivated organisations to retain and store paper-based documents. These documents require a simple yet robust solution to protect them from alteration and counterfeiting that Optaglio have developed.

Optaglio's solution is to protect the paper based document with a transparent uniquely numbered foil cover layer that can be applied using an office laminator to the paper page(s) of the documents.

The transparent foil layer includes micro-holograms or a hologram which can contain covert and forensic features. Any attempt to alter the contents of the pages of the document(s) immediately results in irreversible destruction or indications of tampering of the transparent layer.

Currently, a pilot trial in the US is underway for this latest security application.

Micro-holograms protect pharmaceuticals

During Q4 of 2017 Optaglio announced it had supplied micro-holograms to secure the packaging of 10 million pharmaceutical packs.

The micro-holograms are regular shaped tiny nickel particles that range in size from 30 micrometres to half a millimetre and incorporate a holographic surface that can be engraved with letters, numbers and portraits (see HN December 2017). They look like metallic dust and can be embedded into paper and plastic, or hot stamped or laminated onto a document.

Several levels of verification can be incorporated, including overt, covert and forensic. Covert inspection using a magnifier loupe focusses on shape, hologram presence and letters or an engraved portrait, whilst forensic inspection with a laboratory microscope concentrates on visual effects within the hologram.

Tomas Karenský, Senior Research Manager at Optaglio, said: 'it is great news for patients and awful news for counterfeiters. Even if they succeed in imitation of a basic protection element, other inspection levels are still available. The usual technological race between defenders and attackers is thus eliminated. If the attacker overcomes the first level of defence, he or she does not know whether the packaging includes other security features. It makes their situation pretty difficult.'

The company expects that implementation of micro-holograms for drug protection will continue throughout 2018.

Smarter hologram design

In a separate development, the company also announced that a key milestone has been met for its hologram mathematic simulation project, delivered together with Ostrava Technical University.

The project involves using mathematical simulations to model all details and aspects of the holographic design, such as the appearance of design elements under different coloured light, different angles of illumination and different light intensities etc., that can be visualised before the physical creation of the hologram.

In addition, the simulations can be used to identify what other holographic methods would lead to similar visual effects, thereby enabling designers and specifiers to compare visual effects and design holograms with distinguishable features that are extremely difficult to imitate.

The company anticipates the results of the project will also lead to shorter product development timescale for new ID documents.

The simulation tools currently cover Optaglio's 3D effects, but will be extended step by step to include all kinds of holograms, effects and mastering technologies.

According to Tomas Karenský, 'during the last year, we have introduced several innovations that enhance advantage over counterfeiters. However, it is critical to create a design that applies these innovations, uses them fully and can be easily recognised by inspectors. The simulation is an important tool for creating such design. I believe that it will also be interesting for brand protection. Premium brand manufacturers need to move from protection as a defensive cost to protection as a key element of design. Simulation can help significantly also in this area.'

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