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Another Traceability System for Russia… But No Product Marking Required

In July, Russia's new National Product Traceability System (NPTS) transitioned from being experimental and voluntary, to a mandatory scheme for businesses dealing in certain types of products.

The new scheme was implemented alongside the already existing Chestny ZNAK ('honest mark') product traceability system, introduced in 2019. However, the two systems are completely independent, non-interchangeable, and noticeably different in terms of operating principles and scope.

For a start, the Chestny ZNAK scheme is coordinated by Russia's Ministry of Industry and Trade, as a tool for combating widespread counterfeiting of consumer products in the country.

NPTS, on the other hand, is a programme managed by the Federal Tax Service for ensuring the collection of VAT and other tax and customs payments on specific imported goods. It forms part of a supranational agreement between members of the Eurasian Economic Union (EAEU) – namely Armenia, Belarus, Kazakhstan, Kyrgyzstan, and Russia – to implement a traceability mechanism for goods imported into the EAEU customs territory. NPTS is therefore at various stages of implementation in the other member countries.

Another key difference between NPTS and Chestny ZNAK is that while the latter uses unique identifying datamatrix codes to track and authenticate a multitude of locally made and imported consumer goods at individual unit level, NPTS does not require goods to be marked at all. Instead, it uses electronic invoicing and batch registration numbers to track the B2B transactions and turnover relating to specific consignments, rather than tracking the physical goods themselves.

A third difference is that while Chestny ZNAK applies to items that include dairy products, bottled water, medications, tobacco, footwear, fur, perfume, tyres and photo cameras (with the plan to extend to all product groups by 2024), NPTS focuses on completely different goods, including refrigerators, forklift trucks, bulldozers, washing machines, monitors for automatic data processing systems, television receivers, baby strollers, child safety seats, electronic circuits, and – in the near future – cut flowers.

How does NPTS work?

Under the NPTS programme, batch registration numbers (BRNs) are assigned to individual consignments of goods subject to traceability, as soon as they are imported into Russia and declared to customs. The data contained in the declarations is then used to generate the BRNs.

An exception to this process relates to goods arriving from other Eurasian Economic Union (EAEU) countries, as they don't have to be declared at Russian customs. In these cases, BRNs are assigned to the goods by the Federal Tax Service (FTS).

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Nanotech's Award-Winning Nano-Optic Toolkit

Canadian company Nanotech has been causing quite a stir in recent months with a succession of successful authentication programmes using its toolkit of nano-optic based visual effects. The Holography Conference Online 2021 (THCO 17 – 18 November) provided the perfect opportunity for Neal Skura, Director of Product Management to open the toolkit and take a look inside.

Neal's starting premise in his paper titled 'Combating Counterfeits with a Toolkit of Authentication Effects' was that anti-counterfeit technologies continue to be important as the economic, health and safety impacts of fake goods continues to rise. Neal shared a startling statistic that one in three consumers will have purchased fake goods – either knowingly or otherwise. To be effective in curbing this trend, overt optical security must be both easy to authenticate and difficult to simulate.

Neal picked up on the 'poor relation' theme that is often applied to the introduction of visual deterrent technologies that start as devices on banknotes and that over time trickle down to the brand protection industry. To some extent, holography has been a victim of its own success in this regard, in that it has become so popular as a first level feature on banknotes across the world that it has lost some of its visual impact in the brand protection arena.

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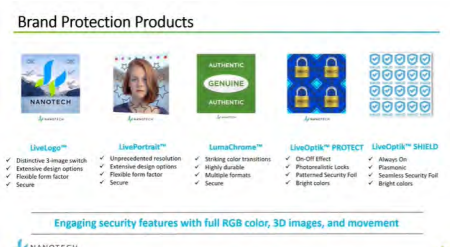
Nanotech Award-Winning Toolkit *(continued)*

To combat what might be called 'recognition fatigue' when viewing diffractive optical features, Neal sees the need for brighter colours and more abstract images that cannot be found off-the-shelf. To achieve this, nano-optic based visual effects can deliver a wide palette of saturated colours, depth, compelling designs and intuitive effects. Whilst Nanotech has a range of branded technologies for banknotes and other secure documents, its LiveOptik™ technology is targeted at the brand protection market.

The nano-optic effects are based on recent advances in nanotechnology that use metallised sub-micron diffractive gratings in place of inks and dyes to manipulate light into colourful and memorable visual features.

Production Flow Diagram (© Nanotech).

Neal stressed that the toolkit developed in Nanotech's brand protection products are the building blocks to allow designers and brand owners to tell their story of trust and innovation. The toolkit contains building blocks of multiple images, on/off and visible/ invisible effects that can be combined in different sequences to engage the viewer.



Toolkit of effects (© Nanotech).

Neal took us in greater detail into one of the branded effects, drilling into a case study of the use of LiveOptik on UEFA Euro 2020 football championship admission tickets – (the tournament was delayed until summer 2021 due to COVID restrictions). In search of an image that could deliver fast visual authentication at the turnstile as well as enforce their brand imagery, UEFA chose Nanotech's switch on/off effect as the principal identifiable image element.

Not only were UEFA impressed by the result, but attendees at THCO 2021 also voted this application of LiveOptik as the 'People's Choice' in the International Hologram Manufacturers Association (IHMA) Awards for Excellence in Holography, at the close of the conference. The audience was particularly impressed that Nanotech's engineers employed a complex mathematical algorithm and advanced manufacturing technologies to accurately embed over two billion nano-sized holes on each of the 6 million admission tickets. All without dyes or inks.

EURO 2020 ticket (© EUFA and Nanotech Security Corp).

Nanotech has recently been acquired by Meta Materials (see AN August 2021), a developer of high-performance functional materials and nanocomposites – setting up the question from the audience regarding the effect the acquisition might have on research and development of the company. Let's hope that Neal's relaxed response that he expects a continuing emphasis on innovation that will bring new products to market proves to be accurate!

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Vienna, Austria

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