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Francis Tuffy
Editor

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Technical Features

IQ Mint New Holographic Coins



IQ Structures, a research and manufacturing organisation focused on nanotechnology engineering and based out of a nuclear reactor site in Řež near Prague, has launched IQ Mint, a technology solution for anti-counterfeit protection and the visual enhancement of precious metal objects such as coins, medals and investment bars.

We have reported before in Holography News® (HN November 2022) on the difficulty of mass replicating holograms onto the exposed surface of coins in circulation. Holograms are similar to the latent images which are used as a security feature on several high value circulating coins. Both technologies are comprised of fine line features that are engraved into the coin die, and both show different effects according to the viewing angle.

In the case of holograms, however, the effects are dependent on incredibly thin and precise fringes. When these microgrooves start degrading – as is inevitable in the minting process and when handled – so does the image. This makes holograms unsuitable for large volume production or use in open circulation. But they do have benefits for collectors' coins and bullion products, in the latter case offering a mark of authenticity along with visual appeal.

According to IQ Structures, IQ Mint is a new technology for transferring the holographic relief to metals which enables the creation of art objects with a unique attractive look, where the shimmering shine of the metal is combined with the distinctive colours and effects of holograms. These unique features include colour rainbows, 2-dimensional flip-flops and 3-dimensional imagery.

'Investing in commemorative coins and other precious metal items is on the rise. This also means a growing demand for anti-counterfeiting protection,' explains IQ Structures' CEO Petr Franc.

‘An advanced hologram provides a huge advantage, making it possible for the genuineness of an object to be recognised by virtually anyone. The owner of an investment item is not dependent on a limited number of professional dealers and banks.’

The silver CZK 500 coin with the Skoda 489 Albatros Locomotive, released last year by the Czech National Bank, demonstrates some of the possibilities presented by IQ Mint. The coin carries effects that evoke the movement of a steam locomotive, such as spinning wheels and smoke from its chimney.

Other areas of use are also emerging, such as the physical form of cryptocurrencies. IQ Structures also believes that protection for regular coins is on the horizon. As banknotes are increasingly better protected, some counterfeiters are turning to the forgery of coins. For example, the European authorities had to issue a warning about counterfeit €2 coins last year ¹, the UK had to replace the £1 coin back in 2017 due to widespread counterfeiting, and the US regularly publishes a ranking of the 50 most counterfeited coins.

‘Holograms on coins have been around for a while, but when you hold an object with an IQ Mint hologram, you’ll see a huge difference. The IQ Mint is a revolutionary technological breakthrough solution with years of our work behind it. Both years of development by our research lab and dozens of projects in collaboration with various mints. Together we are creating a world where there is more trust and where we will be surrounded by beautiful objects,’ commented Robert Dvořák, Managing Director of IQ Structures.

[1 www.irishnews.com/news/republicofirelandnews/2022/08/03/news/public_urged_to_beware_of_fake_two-euro_coins-2789789/](http://www.irishnews.com/news/republicofirelandnews/2022/08/03/news/public_urged_to_beware_of_fake_two-euro_coins-2789789/)

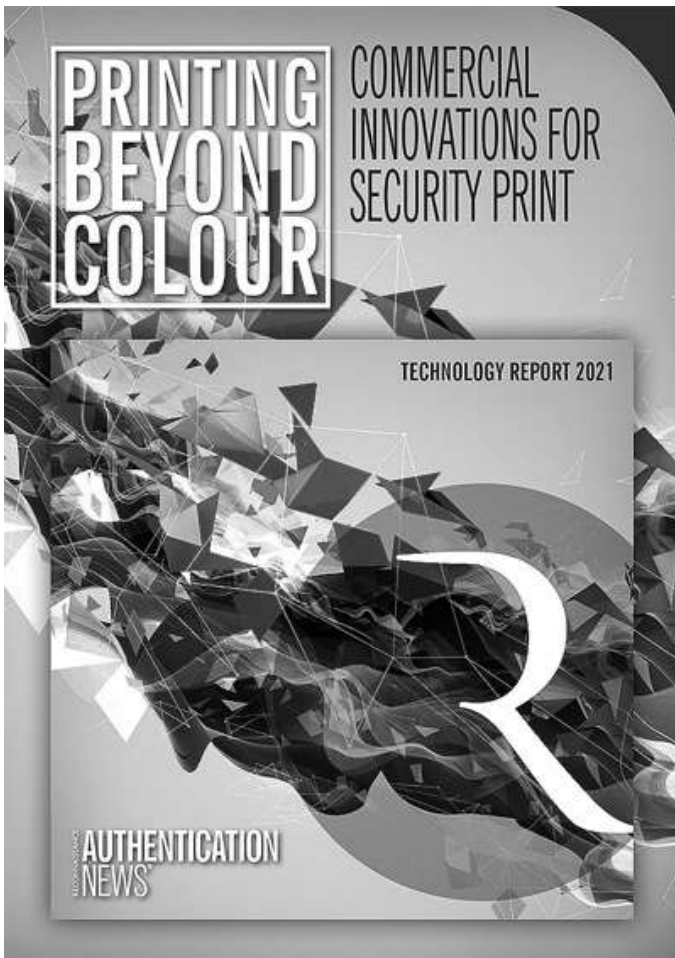
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