

IQ Structures integrates different card security elements

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IQ Structures, a Czech research company focused on optical nanotechnologies, introduced a solution that enables integration of security printing with high-resolution holograms. It is a milestone on the way from documents with many security features to a single compact item protected against all kinds of counterfeiting and tampering. The solution covers purpose-developed holograms and methodology ; it is intended for polycarbonate ID cards.

“If I buy a car, I don’t need a list of components. I want a correctly working product that is comfortable, fast and secure.

The same principle should be applied to ID cards. From a vendor point of view, we can talk about many different anti-counterfeit protection technologies and elements. But card holders and inspectors have no reason to study technology details. They need a simple solution that enables reliable differentiation between the genuine item and fake,” says Martin Jotov, Managing Director of IQ Structures.

Security printing includes techniques such as guilloches, watermarks, intaglio printing, printing with special inks etc. A hologram is an optical structure that creates changing 3D visual effects. Thanks to the latest IQ Structure’s solution, these elements can be perceived as a single unit, with fluent gradating between printing and holograms. The card designers are now able to concentrate on user experience fully, without technology restraints.

To reach this task, IQ Structures’ research team had to solve several technical challenges, including the development of holograms that can be applied to any place decided by the card designer. The current generation of holograms has some limits such as size, shape and ability to cover space up to the edge of the card. Coordination between application of holograms and printing during manufacturing of the card was another technical issue.

Martin Jotov continued: “Until now, each technological innovation has meant a longer list of protection features. Such a trend cannot go forever. Today there is a consensus between security experts that too many features often result rather in confusing of users than enhanced protection. There are just two ways forward. Limiting the number of features or integrating them. Our product, IQproID, opens the way toward integration of sophisticated technologies into simple units. I am confident that other protection technologies will follow this trend.”