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OPTAGLIO introduced stronger holographic protection based on nanotechnologies

By Antonio D'Albore | July 3, 2017

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OPTAGLIO, the global leader in high-resolution security holograms, announced several new optical features that enable users to identify genuine holograms immediately and which cannot be imitated at all. Some of them were implemented in holograms shown at SDW 2017 Expo this week in London.

Current race between document falsifiers and document protectors is mostly based on emulating visual effects of security elements such as holograms. If the falsifier manages to produce something so close to the genuine hologram that ordinary users are confused, his/her counterfeiting effort will be likely successful. It is the main reason hologram producers need to introduce new effects regularly to keep their advantage against attackers.

„We cannot afford to stop for a while. Being just a bit better than attackers is not sufficient. We need to keep such a big advantage that entire lifecycle of a document is covered. Even if it is technically impossible to make the same hologram, we always need to ask the same questions. Is it possible to create a very similar effect with another technology? How available is this alternative technology? Can we expect a significant change in the next years?,” explained Dr. Tomáš Karenský, senior research manager in OPTAGLIO.

OPTAGLIO uses e-beam lithography with extremely high resolution, more than 2,5 million DPI. It has resulted from several year intensive research in OPTAGLIO LABS and enables to create very particular diffraction gratings, and consequently unique visual effects. Each kind of effect is based on a special algorithm that needs to be developed and implemented into software.

„For imitating our hologram, you need access to our lithograph or a very similar machine, our software with same algorithms implemented and data from the previous session. To sum up, imitation impossible,” continues Tomáš Karenský.

The latest visual effects include:

- Fluent move instead of switching between pictures during hologram tilting. Moreover, this fluent moving can work in another axis than tilting.
- Emerging of a new object from hologram background after illumination with monochromatic light under a



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About OPTAGLIO

Optaglio is a research organisation and the global leader in high resolution e-beam lithography security holograms. During almost 25 years of our history, we have delivered hundreds of millions of holograms to governments, financial institutions and other organizations in more than 50 countries around the world. Our unique technology has been broadly recognized as the industry standard for optical security.

In 2015, a large scientific centre and production facilities were opened in Lochovice, Czech Republic.

OPTAGLIO, certified to relevant international standards, operates under strict 24/7 security supervision. Our comprehensive security system covers people, processes, data and facilities. The company is a member of International Hologram Association (IHMA) through which it registers all its security devices and holograms in the central security register, in London.

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