

IQ Structures notes company transformation

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After eight years of existence, IQ Structures is transforming into a holding structure. This holding is covered by the parent company IQS Group s.r.o., which has three subsidiaries under it. Each of them is dedicated to one specific area of business.

The original brand IQ Structures s.r.o. will continue to focus on the strongest part of the group to date - protection against counterfeiting. The division dealing in unique nano-structured optics will form a new company and operate under the name IQS NANOPTIQS s.r.o. Finally, a third company developing a completely new approach to 3D nano-printing technology continues under the name IQS nano s.r.o.

"3D nano-printing, security and the optical part of our business group operate in markets with different business conditions and habits. Individual companies will now be able to enter into business relationships in accordance with the specifics of their business segments and develop independently," says CEO of parent company IQS Group Tomáš Těthal. At present, about 70 percent of IQS Group's turnover is made from security features, and about 30 percent is NANOPTIQS. 3D nano-printing is in the development stage of a new generation of nano-printers for mass production.

The transition to a holding structure is part of a long-term strategy, whereafter reaching a sufficient level of maturity, the direction is separated into companies that have teams and resources fully focused on their key area of business.

The company, which produces holographic security features for polycarbonate identification documents, banknotes and securities, will address its main target groups, which are governments and state and private security printers, under the brand IQ Structures. Most contracts awarded at this level are subject to a confidentiality agreement. "Currently, we provide high-end optical effects for protection of various documents and products. In securing ID cards, passports and banknotes, we want to be stable among the three largest companies in the world," explains Petr Franc, CEO of IQ Structures.

The new company IQS NANOPTIQS got its name from the nano-structured optics it designs, develops and produces for the international LED lighting market. With a current focus on LED lighting hosting many applications the future looks bright with further opportunity to expand into the automotive and sensing markets. These innovative optics give luminaire manufacturers new design possibilities, including miniaturization, whilst maintaining ultimate functionality and saving on material and energy.

"These optics are produced in a highly efficient way comparable to conventional rotary printing used in the production of printed matter or packaging. The product line of optical solutions intended for manufacturers of conventional luminaires has grown significantly this year. In the coming years, thanks to this, we can achieve many times higher turnovers

than before. In addition to our own serial products, we also offer the development and production of new optical solutions tailored to customers," says David Brož, CEO of the new company IQS NANOPTIQS, adding: "We were the first in the world to master the development and production of micro and nano structured diffractive optics. We have opened this market segment and are gradually expanding it. In the future, we want to remain number one in this direction on the global market. Its potential is in hundreds of millions EUR."

The third company, IQS nano, aims to be the first in the world to build a 3D nano-printer for the production of bulky products with extreme dimensional accuracy. This technology was named one of the ground-breaking technologies by MIT in 2015, and a country that is among the first to handle it can gain a major technological edge. Like conventional 3D printers, a nano-printer is capable of creating almost any object, but with the difference that it achieves about a thousand times higher resolution and can thus produce completely unique products and internally structured materials. An example is a metamaterial that is as strong as steel, more heat resistant and at the same time up to 1000 times lighter.

Another application of this technology will be the construction of scaffolding for the implementation of stem cells for the growth of artificial tissues and organs. The production of microchemical laboratories and testers (lab on chip) is also a very interesting direction.

"We have used our more than twenty years of experience in synthetic holography, micro optics and lithographic technologies to develop a technology for writing three-dimensional objects with a resolution of hundreds of nanometers. The combination of a number of interdisciplinary fields and techniques has led to the creation of a unique technology that enables the writing of shape-precise objects with extremely fine details that are otherwise unfeasible with conventional lithographic techniques or 3D printing," says Milan Matějka, CEO of IQS nano.

The companies IQS Group, IQ Structures, IQS NANOPTIQS and IQS nano are based in Řečkovice near Prague, Czech Republic. They also share another establishment - a nano-centre in Brno.

IQS Group now holds 23 patents and patent applications. Last year, the entire business group achieved a turnover of over one hundred million Czech crowns, with 70% growth. It also expects growth of at least tens of percent per year in the coming years.