



PRESS RELEASE

New generation of laser-based surface functionalization: SurFunction unveils groundbreaking ELIPSYS® technology platform

At the Blechexpo, the Saarbrücken company is presenting a new, revolutionary generation of DLIP technology with previously unknown performance features and areas of application.

Saarbrücken, November 7th, 2023: SurFunction, a leader in sustainable surface technologies, proudly presents its new technology platform ELIPSYS®. This groundbreaking technology, based on the award-winning DLIP (Direct Laser Interference Patterning) technology, has vastly improved the performance, speed and robustness of previous systems and ushered in a completely new era in surface functionalization modeled by nature.

The ELIPSYS® platform features an impressive increase in **speed and efficiency (up to 1000x)**, an increase in volume, **flexibility and tolerance (up to 100x)** and many other advantages. This allows SurFunction to present a new class of DLIP, generate extended interface functionalities and achieve very high cost-effectiveness for users. ELIPSYS® stands for "Extended Laser Interference Patterning System" and not only opens up new fields of application, but also offers the integration of AI-controlled models, other complementary technologies, increased use of robotics, and the industrialization of femtosecond laser systems for ultra-precise surface processing.

"Our ELIPSYS® technology represents a new milestone in surface technology. It offers comprehensive access to new precision and speed while maintaining extreme tolerance. This enables a new class of industrial opportunities and a wide range of options for sustainable surfaces. We are proud to be able to integrate the



patented technology into the first systems and demonstrate performance in practice," said Dr. Dominik Britz, Managing Director of SurFunction.

The new technology will be gradually introduced to the market over the coming months. SurFunction will present its innovation to various customers and at selected events, including a first presentation at the Blechexpo in Stuttgart.

SurFunction warmly invites trade visitors to discover ELIPSYS® technology and shape the future of sustainable surface technology together.

Visit us: BLECHEXPO / 7.- 10. Nov. / Stuttgart / Booth 6106 (Hall 6)

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Background of DLIP and ELIPSYS®:

Surface structures play a crucial role in the performance of almost all technical components, as decades of research undoubtedly show. Nature itself offers fascinating examples of the efficiency of surface structures: the non-stick properties of the lotus plant or the iridescent color effects on butterfly wings are only possible through complex micro- and nanostructures. However, reproducing these natural phenomena on an industrial scale has so far been a challenge due to a lack of technology that enables economical production on an industrial scale.

The solution to this challenge has been achieved through groundbreaking research work in recent decades and the invention of "Direct Laser Interference Patterning" (DLIP) by Prof. Dr. Frank Mücklich and Prof. Dr. Andrés Lasagni. This technology has laid the foundation to revolutionize the way we manipulate surfaces on a microscopic level. The principle of interference is used here, comparable to the interaction of colliding water waves. This analogy can be applied to light rays that are split and then superimposed so that they interfere with the surface of the material. The result is precise, fine structures that were previously only found in nature.

The consistent further development of DLIP technology by SurFunction GmbH has now opened a door for industrial application. ELIPSYS® (Extended Laser Interference Patterning System), the latest generation of DLIP technology, enables particularly quick and economical creation of complex surface structures that improve the properties of a variety of products (e.g. non-stick, antibacterial, energy efficient, low-friction, highly electrically conductive or anti-counterfeit). DLIP and ELIPSYS® mark a turning point in the production and functionalization of material surfaces for a wide range of industries.

SurFunction GmbH (www.surfunction.com):

SurFunction is a leading system provider for contactless surface modification. The company, based in Saarbrücken, uses a wide variety of laser-based processes based on award-winning and patented interference technologies. This makes cost-effective, cross-scale surface structures possible in record times, which are



modeled on living nature. Surfaces can thus be given new properties. True to the claim "nature knows best", SurFunction opens up new innovation potential and offers companies from numerous industries significant competitive advantages. SurFunction provides customers with complete systems and highly functional surfaces. In this way, SurFunction improves its customers' products and processes and makes an active contribution to resource conservation.