



## **PRESS RELEASE**

### **World premiere for semi-finished products and connector functionalization: First integrated series system with DLIP technology**

**The Saarbrücken company, together with Noxon Automation, is presenting a world premiere in semi-finished products and connector functionalization at the Blechexpo in Stuttgart and is showing the first modular, integrated series system with DLIP technology for improved surfaces, new tribological properties and mating force reduction.**

Stuttgart, November 3, 2023: In a groundbreaking new launch, SurFunction and its strategic partner Noxon Automation are presenting the first DLIP (Direct Laser Interference Patterning) series system of its kind for the functionalization of connectors and semi-finished products - based on a new, fast, sustainable and economical technology. This system, celebrating its world premiere at the Blechexpo in Stuttgart, supports the latest generations of connectors and semi-finished products. It enables functionalization in the form of controlled surface qualities, optimization of tribological properties and the reduction of insertion and removal forces in connectors in a significant double-digit percentage range.

The series system called "E 960 C1" revolutionizes contactless functionalization of the highest quality through a new class of DLIP optics with previously unreachable performance. A core part of this innovative system is also the integration of the proven LCW10 technology from Noxon Automation. Thanks to this solid foundation, which has been refined over several years of series implementation, the system represents a reliable and efficient solution in the most demanding industrial environments.

Designed as an in-line system, the system offers a seamless expansion for existing production chains and enables the introduction of new product classes that are essential for current and future generations of series products. The integration of



the latest generation of patented SurFunction DLIP optics guarantees maximum economic impact, speed and reliability.

A special feature of the "E 960 C1" is its impressive band feeding speed of several meters per minute. This speed prevents bottlenecks in ongoing production processes and represents a valuable addition to a wide range of manufacturing scenarios. In addition, the system offers flexibility through customizable peripheral options, including in-line monitoring. "Our system relies not only on years of experience in optics and system design, but also on Noxon Automation's decades of expertise in special machine construction, especially in the area of winding and unwinding technology," says Dr. Dominik Britz, the managing director of SurFunction.

The world premiere of the first DLIP series system at Blechexpo underlines the commitment of both companies to be leaders in innovative manufacturing technologies. SurFunction and Noxon Automation invite trade visitors to discover this revolutionary system on site as it redefines the functionalization of connectors and semi-finished products.

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

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## **Background: DLIP**

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 Fabián Lasagni. This technology has laid the foundation to revolutionize the way we manipulate surfaces on a microscopic level. The principle of interference is used, 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.

Consistent further development of DLIP technology by SurFunction GmbH has now opened a door for industrial application. The latest generation enables complex surface structures to be created particularly quickly and economically, improving the properties of a variety of products (e.g. non-stick, antibacterial, energy-efficient, low-friction, highly electrically conductive or anti-counterfeit). DLIP marks a turning point in the production and functionalization of material surfaces for a wide range of industries.



**SurFunction GmbH ([www.surfunction.com](http://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.

**NOXON Automation ([noxon-automation.com](http://noxon-automation.com)):**

NOXON Automation looks back on a success story spanning over 50 years and aims to shape the future with innovative technology, show new solutions and inspire customers. The company is one of the leading international providers in the development and manufacture of complex winding and unwinding machines with a high degree of automation, tape storage, tape welding devices and packaging machines. Individually designed special solutions round off the product and service spectrum for stamping and forming technology. The fulfillment of complex customer requirements, high delivery reliability and maximum customer satisfaction are ensured by strong innovation orientation and many years of know-how from specialists. Noxon's customers include almost all well-known companies from the connector industry, automotive industry, telecommunications industry and industrial electronics.