

Multiphoton Optics introduces new 3D Printing Platform

- **LithoProf3D operates with high precision for industrial applications**
- **Up-to-date laser technology for diverse substrates and formats**
- **Heidelberger Druckmaschinen as global production partner**

Multiphoton Optics GmbH, Würzburg, offers with its LithoProf3D a 3D Printing Platform to scale the high-precision 3D printing for a large variety of products in many different markets. Arbitrarily shaped 3D structures can be fast and reliably fabricated via maskless laser direct writing on surfaces of a volume of a material. Structures can be additively or subtractively created, using different exposure strategies. Structure fabrication can be carried out on large areas with tunable precision on demand.

The High Precision 3D Printing Platform LithoProf3D features automated processes, a variable footprint, application-specific laser power and wavelength, and a very high precision over large areas with its unrivaled Infinite Field of View Technology. The systems are available with and without galvo scanner in a three-axis setup and offer various level of precision, automation, and alignment. The fabrication can be performed on various substrates and formats. Photosensitive materials (resists) are employed for additive fabrication; other processes can be carried out in special glasses or metals to structure them. Structure size, process, and area can be simply scaled.

Since February 2016, LithoProf3D is employed as solid working platform for industrial prototyping of individual structures up to small series prototyping. LithoProf3D offers our customers the possibility of an application-specific scalable fabrication of novel miniaturized designs and, at the same time, a significant reduction in cost and time-to-market via simple processes. Additive and subtractive 3D structuring processes can be simply integrated in conventional 2D process work flows and thus create a unique experience in 3D prototyping of products in Information & Communication Technology (ICT), Industry 4.0, Internet of Things (IoT), and medical products.

Particularly, products in the field of optical data transfer systems, sensors, illumination and imaging for mobile and stationary applications for industry and consumer can be simply and fast realized as prototypes and furthermore as products – “from lab to fab”.

Heidelberger Druckmaschinen as global production partner

The significantly increasing demand of individualized solutions for many different markets necessitates a scaling of the production process of the High Precision 3D Printing Platform LithoProf3D. Heidelberger Druckmaschinen AG (Heidelberg) with its Smart Factory was engaged as ideal partner for the flexible production of the novel High Precision 3D Printer Platform LithoProf3D.

Heidelberg supports Multiphoton Optics in the transformation of its development data in production compatible information and in product validation. Besides, Heidelberg fully assembles the 3D Printing Platforms at its production site Wiesloch-Walldorf with an elaborated documentation of the state of the assembly process, and provides on schedule delivery of the product worldwide. For that purpose, Heidelberg uses its collaboration tool View2Connect®, a cloud-based application for the digital networking of today’s process chains across industry.



“The modular services of Heidelberg’s Smart Factory support Multiphoton Optics to create a competitive advantage to win market shares”, says Josef Schell, director of Heidelberg’s Smart Factory. “We are the industrial partner for tomorrow’s innovation in a digital world.” Ruth Houbertz adds: “The utilization of Heidelberg’s production services enables us to concentrate on the further development of our hardware platform with its unique software LithoSoft3D in order to support our industrial customers in their product development.”

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