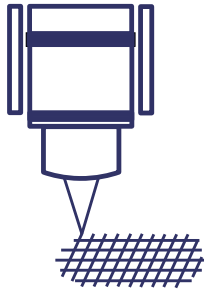


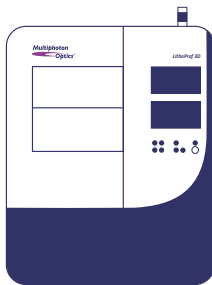
Multiphoton Optics GmbH

3D Lithography - Additive and Subtractive Manufacturing



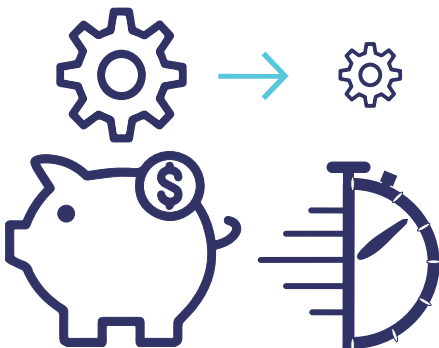
Multiphoton Optics' technology utilizes the process of Two-/Multi-photon Absorption (TPA/MPA) for the fabrication of 3D structures, with femtosecond-pulsed laser light being used as manufacturing tool. Due to the nature of the non-linear process, the intensity is only high enough to initiate a reaction in a material in a strongly confined focal volume.

This method is a special case of 3D Lithography, known as High Precision 3D Printing on sub-micrometer scale, with the structures being created in the additive mode in photosensitive materials.



Multiphoton Optics' 3D Lithography equipment

LithoProf3D® not only enables additive manufacturing, but also other processes. Using positive-tone resist materials or thin metal layers, subtractive processes can be carried out, analogously to classical 2D processing. For thin metal layers, the process is a classical ablation process. Special glasses can also be structured, depending on the glass-light reaction.



3D Lithography accelerates miniaturization for advanced devices in medicine, lighting, imaging, mobile devices, sensors, displays, and computing. It enables quick manufacturing of lean packages without high assembly effort, cuts down prototyping time and cost and - at the same time - increases functionality at a high level of miniaturization, and accelerates time-to-market for breakthrough idea and products.