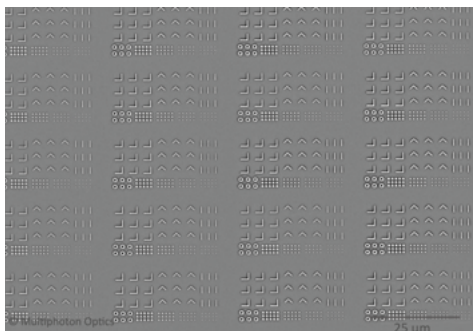
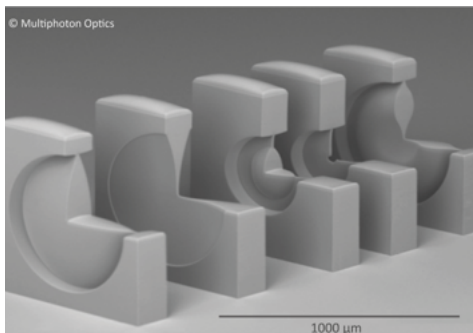
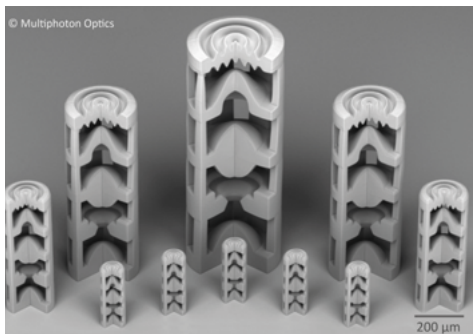
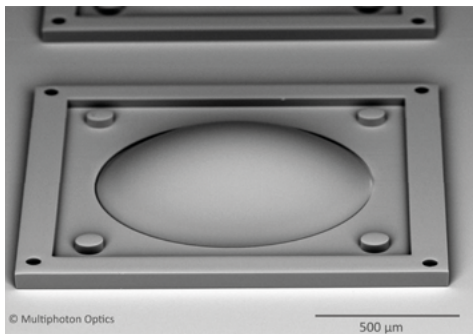


Microoptics

High Precision 3D Printing of Optical Elements

Micro — Meso — Macro



Features

- Additive fabrication of optics in photosensitive and particle-filled photosensitive materials
- Direct printing on any surface (polymers, metals, glass, paper, leather, silicon, ...), on active devices (LEDs, VCSELs, InP, ...), assemblies (pre-configured substrates, PCB, ...) and wafers
- Scaling from sub- μm to several mm in diameter, working precision adaptable within the same structure as needed
- Fabrication without stitching
- Refractive indices from 1.49 to 1.6 (VIS) for unfilled systems, lower and higher for filled systems
- Optical surface quality $R_a \approx 5 \dots 30 \text{ nm}$
- Transparency > 95 %
- Spherical, aspherical, free-form designs, and arbitrary combinations in modular fabrication strategies
- Horizontal and vertical lens stacks without assembly steps (inherent optical alignment)
- Direct integration of frames and features for alignment and assembly
- Powerful software package LithoSoft3D® with various editors specifically designed for industrial applications

Benefits

- Rapid prototyping, faster time-to-market
- Faster production speed, higher output volume
- No assembly, lower production cost
- Improved and novel designs