

## Scientific Prototyping with Lasers

### LPKF Extends Its Prototyping Range

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LPKF Laser & Electronics AG is setting new standards with its easy-to-use, chemical-free laboratory processes for PCB prototyping. Now the Garbsen, Germany-based laser specialist is bundling its non-PCB-prototyping efforts in the “Scientific Prototyping” segment.

No electronic assembly can get by without one or more prototypes in the development phase. LPKF’s chemical-free processes help companies rapidly turn their ideas into functional printed circuit assembly production prototypes. In the production of conductor structures, circuit board plotters and ProtoLasers come in handy. Other processes can be used for producing the finished PCB – which can be single-sided, double-sided, or multi-layer with up to eight layers. The prototyping segment has shown steady double-digit growth over the last few years.

Not only that, but the demand for highly flexible processes with high precision and reliable process control in the area of R&D has also been rising. These demands can easily be met with laser systems: software enables easy adaptation of process paths, materials libraries containing parameters for numerous materials are available, and LPKF offers compact, low-maintenance laboratory lasers.

LPKF sees potential for growth in scientific prototyping and has grouped all laser systems not used for PCB processing here. This is where laser systems with special capabilities can be found. The LPKF ProtoLaser LDI is a compact tabletop unit for exposure of microfluidic structures with a one-micron resolution. The LPKF ProtoLaser U4 is used in the PCB area, but it can also be used for drilling or cutting ceramics, applying invisible structures to transparent TCO substrates, or processing organic thin films. Even the predecessor was established as an invaluable laboratory assistant at renowned research institutes. The LPKF ProtoLaser 3D enables traces to be placed on 3D-printed plastic parts – Festo’s BionicANT, which was presented at the Hannover Fair in 2015, was made using this technology. Other prototyping systems for laser plastic welding and a laboratory system with an ultra-short pulse laser for cold ablation round out the offering. All of the laser systems are extremely compact, frugal, and easy to use thanks to powerful system software.

Lars Führmann, strategic product manager for this division, explained, “We regularly receive requests for processing highly challenging materials. In the Scientific Prototyping division, we are collecting know-how and developing solutions based on laser technology that LPKF also uses in industrial systems.”



**Lasers for the R&D lab: LPKF combines special processes and laser systems in the Scientific Prototyping segment.**

#### **About LPKF**

LPKF Laser & Electronics AG manufactures machines and laser systems used in electronics fabrication, medical technology, the automotive sector, and the production of solar cells. Around 20 percent of the workforce is engaged in research and development.