LPKF has applied for the Hermes Award with the Fusion3D, given that this system can do great things: it contributes to the final breakthrough of three-dimensional interconnect devices in the consumer, medical and automotive industry. The LDS process itself holds crucial advantages. Products which can be complex yet compact already rely on 3D components. The laser process even allows for layout modifications – down to individual pieces – to be implemented with ease.

The LPKF Fusion3D adds a special efficiency – up to five times the performance of the former systems. It's a crucial element in a breathing factory and gives promise of new options. Since being founded in 1976, LPKF has been the technology leader for various areas. We are very excited to be nominated for the Hermes Award and promise: we won't slow down and we will continue to offer sophisticated technologies to the market.

Dr.-Ing. Ingo Bretthauer
Chief Executive Officer
LPKF Laser & Electronics AG

Laser technology for tomorrow's world

LPKF Laser & Electronics AG manufactures machines and laser systems used in the production of electronics, medical technology, the automotive industry and in the production of solar cells. About 20 percent of the employees work in research & development. More than 50 subsidiaries and distributors provide sales and service worldwide.

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true 3D TECHNOLOGY

Multiple Head TECHNOLOGY

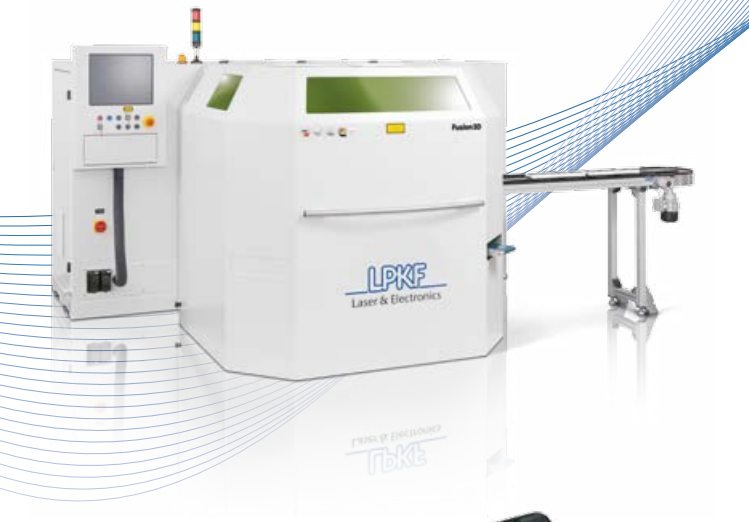
IN-LINE ready TECHNOLOGY

LPKF Reliable efficiency Engineered for safety User-friendly Eco-friendly

3D Interconnect Devices by Laser

LPKF Fusion3D

Nominated for the Hermes Award 2010



- 3D interconnect devices on plastic components
- Laser direct structuring
- Highly efficient and cost-effective

LPKF
Laser & Electronics

Electronics With a Third Dimension

Laser beams produce PCB tracks on three-dimensional surfaces – with micrometer precision. The LPKF Fusion3D easily masters this challenge and at breathtaking speeds. A total of four lasers can simultaneously structure the component from up to seven positions. The benefits:

- Improved accuracy
- Reduction of processing time by 80 percent
- Virtually no downtime
- Tool-less process
- Flexibility – layout modifications via software

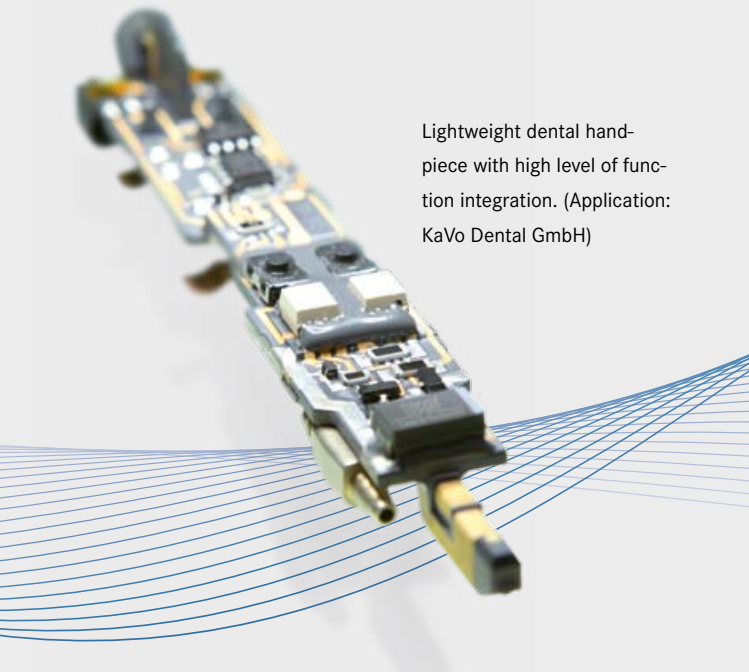
LDS component for
vehicle-interval radar
(Application: Iskra Mehanizmi d.d.)

New Liberties for Designers

Combining LDS process and high-performance structurer is an enabling technology. The best examples are today's smart phones. The LDS process can handle the balancing act between minimal designed space and maximum functionality: existing housing components become electronics components.

The performance gained with the Fusion3D has made an impact. It has quintupled the production capacity for cell phone antennas from 20 million in 2009 to 100 million. In the future, middle-ranged cell phones, or netbooks and notebooks, will also be equipped with LDS antennas.

LDS was also well received on the market for other areas. Some examples:



Lightweight dental handpiece with high level of function integration. (Application: KaVo Dental GmbH)

The LDS Concept

1. Injection molding:
Single-component injection molding from thermoplastic with additive.

2. Laser activation:
The laser writes the structures; a physical-chemical reaction forms active nucleus and a microrough surface.

3. Metallization:
Additive PCB track layout in currentless metallization baths.

The LDS process:

- Reduces components and designed space
- Reduces cost per unit and assembly cost
- Marked by utmost flexibility and precision (e. g. PCB track widths < 80 µm).

Steering wheel control components (Application: TRW Automotive für BMW)