

## **What a beautiful Spring!**

**Please excuse the lack of a newsletter in spring but too many positive things happened early this year! For our team spring was very positive not only in a meteorological sense but also in terms of extraordinary market- and technology developments. Therefore, this flyer contains some very good news about vario-optics:**



**The development of the market has been very encouraging! Currently vario-optics is actively involved in twelve customer projects. Some of them will soon go into pre-series production and move relatively**

**quickly to series status. The products will be introduced into both, the sensor- and the datacom market. Besides this considerable number of ongoing projects, vario-optics is conducting very concrete discussions for further development projects.**

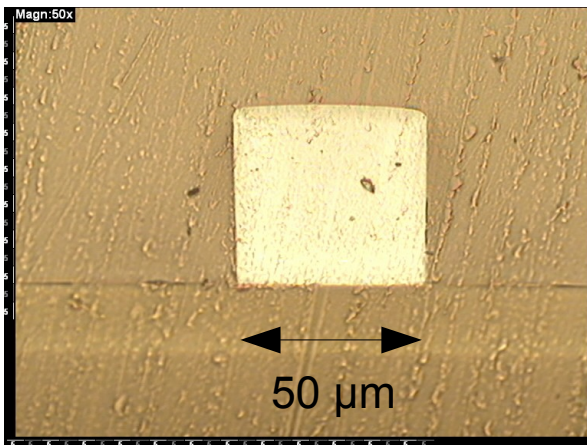
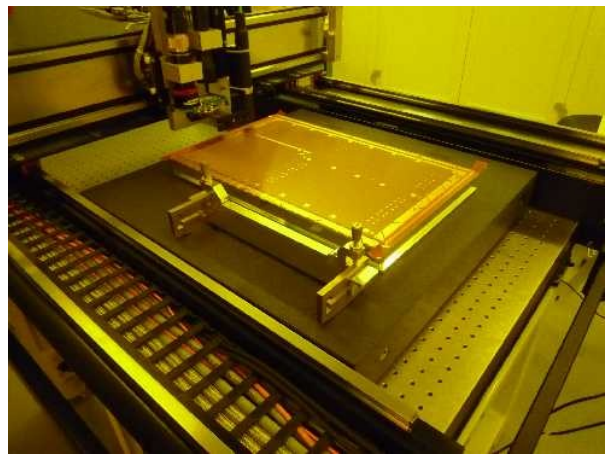
**In addition, progress has been made on the technology side; after one year of development the new laser direct imaging system was installed. The machine allows direct writing of optical waveguides on panels up to the size of 530 mm x 610 mm and it accepts standard CAD-data formats like gerber or dxf. The waveguide-ends can be positioned very precisely at a relatively high writing speed.**



**The machine provides two modes: an engineering mode, offering the whole range of flexibility and a production mode, allowing the**

machine to be operated with only three buttons. With that, even inexperienced operators will be able to produce consistent quality using the parameters derived during the complex process development. The machine is therefore prepared for series production. We were already able to produce large waveguide structures with very good cross-sections and an optical quality of 0.05 dB/cm which is typical for vario-optics waveguides. Most of the machine features are characterized and we are currently further pushing speed and throughput of the new LDI. The machine is being used for more and more customer products.

The system is very precise, e.g. layers of 50µm can be deposited with a precision better than 2µm! The machine is equipped with according sensors in-line thickness measurement.



Another important improvement has been made by the vario-optics team in the field of layer deposition. We built-up a new doctor blading system also supporting large panel formats up to the size of 305 mm x 460 mm.

Both developments enable new functions, shorter delay times and higher and reproducible waveguide quality in order to satisfy our customers.

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