



## Press Release

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# Jenoptik Optical Systems division at Photonics West 2010: New developments in microoptics, optoelectronic systems and digital imaging. All US operations now under one roof.

At Photonics West from January 26-28, 2010 in San Francisco, USA, Jenoptik's Optical Systems division will be presenting numerous innovative products at booth #1422. At the beginning of 2010 Jenoptik amalgamated its entire US optics business within JENOPTIK Optical Systems, Inc.

## All US operations now under one roof

Effective January 1, 2010 MEMS Optical, Inc. (Huntsville, AL) and JENOPTIK Polymer Systems, Inc. (Rochester, NY) have merged with JENOPTIK Optical Systems, Inc. headquartered in Jupiter, FL. The unified entity includes 125 employees, 3 production facilities and will represent all 4 business units of the Optical Systems division. „Integrating our US activities will allow us to increase brand recognition in the market and simultaneously leverage the existing synergies and efficiencies within one strong US company. With this merger, our customers will benefit not only from a higher integration within the US but also from the product offerings and capabilities of our German facilities.“ said Dr. Dirk Rothweiler, Head of the Jenoptik Optical Systems division.

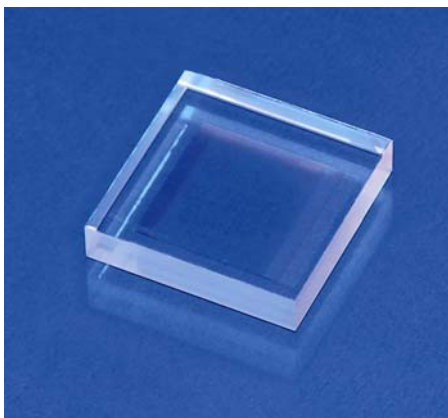
## Efficiency enhancement of transmission Pulse Compression Gratings (PCG)

The Microoptics business unit announces the further improvement of the product line PCGs for the utilization in fs – Lasers. Diffraction gratings are a key element for pulse compression of laser systems. In addition to the standard high performance transmission and dielectric reflection gratings the

business unit fabricated and evaluated first prototypes of efficiency enhanced pulse compression gratings (transmission e<sup>2</sup>PCGs) designed for wavelengths above 1030 nm with a groove density of 1740 lines per mm. Jenoptik Microoptics is able to increase the efficiency of the fused silica e<sup>2</sup>PCGs by more than 8 % to more than 98 %. This development is a result of a cooperation with the Institute of Applied Physics at the Friedrich Schiller University Jena, Germany and the Fraunhofer Institute for Applied Optics and Precision Engineering, Jena.

State of the art fused silica transmission gratings for high wavelengths and groove densities suffer from the limitation of the maximum theoretical diffraction intensity since the reflection losses increase dramatically with increasing incident angle. The higher efficiency of the new e<sup>2</sup>PCGs now enables even more compact setups, due to the feasibility of smaller grating dimensions for higher laser powers based on the lower absorption. The new class of transmissions gratings complements the existing product line of transmission and dielectric reflection gratings with high damage thresholds.

The Microoptics business unit offers a complete portfolio of micro-optical products featuring excellent performance. Based on a broad range of technology skills, customers can choose from a variety of options – from the design and flexible rapid prototyping to the manufacturing of small and large batches of refractive, diffractive or hybrid micro-optical solutions. With fabrication sites in Germany and in the USA and sales representations worldwide, we are positioned close to our customers.



Image

Efficiency enhanced pulse compression gratings

## Optical components for safety system

The business unit Optoelectronic Systems will present polymer optical components manufactured for the innovative Closing Velocity (CV) sensor system known as "City Safety". In March 2008 the system had its world premiere in an European car. This laser-based optical sensor was developed to mitigate or to stop accidents at lower speed. The transmitter and receiver unit of the system calculates the distance to objects and its approach speed from signals in the range of up to 10 meters.

The necessary transmitter and receiver lenses are manufactured on production lines with high quality. The specific technical challenges of the injection molding of these lenses are tooling technology and process stability required to achieve the necessary tolerances. Their complex process and production design is aimed at shaping the light of the laser diode for performance and just as importantly eye safety.

The tool inserts for the complex lens consist of a variety of different sized facets. These facets are tilted in two axes and integrated into the tool.

Additionally, the business unit will exhibit opto-electronic and opto-mechanical components and systems used in the areas of automotive & mobility, lighting & energy, health care & life science and sensors technology. For their design and manufacture, the business unit provides all necessary steps of the value chain starting with optics and product design. Fabrication in various replication technologies requires expertises in tooling, surface technology as well as assembly and packaging technologies and system integration.



Image

Camera lens, transmitter and receiver lens of the CV sensor



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## Quality imaging and highly specialized modulators - made in Germany

The Digital Imaging business unit will showcase the highlights from its product portfolio. The business unit develops, manufactures and supplies customer specific system solutions as well as standard imaging modules for consumer, industrial and scientific applications. The product portfolio also includes cameras for digital microscopy and high performance Light Modulators.

### ProgRes® Cameras

The digital microscope camera of the ProgRes®-family is based on decades of experience in development and production of high-end solutions for digital imaging. Therefore the business unit Digital Imaging of Jenoptik's Optical Systems division offers optimized solutions for the various user requirements. Equipped with CCD or CMOS technology using monochrome or color sensors with optional cooling and a choice of connection of either USB or FireWire, the ProgRes® cameras allow professional images with ease and consistency.

With our new product ProgRes® CT5 USB, we meet the needs of our customers for easy connection. The basic requirement for productive work in life science and material science are fast live preview imaging with excellent color reproduction. With the new USB 2.0 interface, the ProgRes® cameras connect easily and do not require an external power supply.



### Image

ProgRes® Digital Cameras

## Light Modulators

Furthermore, the Digital Imaging business unit is presenting Light Modulators which are utilized for modulation of amplitude, phase, polarization and spectrum as well as for pulse shaping, pulse rate reduction and fast switching of light from laser sources of diverse power. The modulators, based on liquid crystal cells or fiber coupled integrated optics, are characterized by short switching times and a wide operating wavelength range in the visible (VIS) and near-infrared (NIR) spectrum.



Image

Integrated-Optical Modulators

Detailed information on the range of services available from the Jenoptik Group at the Photonics West trade fair from January 26-28, 2010 in San Francisco can be found at [www.jenoptik.com/photonics](http://www.jenoptik.com/photonics).



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## About the Jenoptik Optical Systems division

Jenoptik's Optical Systems division is one of the few manufacturers worldwide to produce precision optics and systems designed to meet the highest quality standards.

Besides opto-mechanical and opto-electronical systems, modules and assemblies the Optical Systems division is a development and production partner for optical, microoptical and coated optical components - made of optical glasses, IR materials as well as polymers. It possesses outstanding expertise in the development and manufacture of microoptics for beam shaping used in the semiconductor industry and laser material processing. The product portfolio also includes systems and components for life sciences as well as lighting & energy applications, system solutions and modules for digital image capture and processing as well as cameras for digital microscopy.

The division maintains production sites in the USA and Germany.

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