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FISBA Develops Optical Microsystems for the Industry Precise Visualization in the Smallest Spaces

FISBA OPTIK AG designs and manufactures miniature visualization systems. These are used wherever very little space is available or when every gram carries weight, for example in in-line process visualization in industry. The microsystems combine imaging, beam shaping and metrology down to even the smallest of dimensions.

FISBA builds miniature visualization systems that are capable of displaying even the smallest spaces and surfaces with high precision. They can enable minimally invasive procedures, monitor chemical processes in lab-on-a-chip applications, measure complex cavities or register the labeling on electronic components. Thanks to their light weight, they can even serve as a mobile “eye” on the moving arm of a pick-and-place robot in narrow manufacturing lines.

“The increasing miniaturization of products offers great benefits. It helps to reduce material, volume and weight. However, this often results in more constricted space in the manufacturing process”, says Urs Schneider, Key Account Manager Optical Solutions at FISBA in St. Gall, Switzerland. “In these cases, smaller visualization systems offer the best solution. When a site is confined or difficult to reach, they provide images and measured data directly from the scene of event.”

The industry is a driving force in micro optics

As a consequence, the industry is increasingly invigorating micro technologies. FISBA accompanies in the development process as a partner from the initial feasibility studies and the

design of systems to serial production and the assembly of optical microsystems. From a single source, FISBA offers high brightness and homogenous LED light sources and laser modules, precise optics for cameras, beam shaping and sensors as well as microsystems for 2-D and 3-D measuring, for instance.

Because industrial applications are increasingly moving into focus, FISBA has been arranging for a highly scalable production. From prototyping to serial products, a comprehensive documentation is being carried out through inline measurement and data collection. This allows for ensuring the quality and optimizing processes continuously. The manufacturing can therefore be integrated flexibly into the customer's supply chain as the production output increases.

Performance combined in a compact manner

„In order to bundle maximum performance in a small system it is essential to optimize the integration of lighting, optics, CCD or CMOS sensors and micro optics”, explains Urs Schneider, “Here, we bring these competencies together. At the same time we ensure the quality through a strong vertical range of manufacture, a high automation degree as well as precise measurement and highest levels of cleanliness in the assembly, for instance during the active adjustment of micro-optics.”

FISBA will be demonstrating its skills in customer-specific design and manufacturing with exemplary microsystems and components at various leading trade fairs, for example during the [Hannover Messe MicroNanoTec](#) in hall 017, booth C48, from April 23 to 27, 2012. In addition, FISBA will be present at [Optatec](#) from May 22 to 25 in hall 3.0, booth G22, [LASYS](#) from June 8 to 10 in hall 4, booth 4E59 and [Vision](#) from November 6 to 8, 2012, in hall 1, booth 1161.

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Photos: FISBA develops and manufactures customized optical microsystems for use in Life Sciences or machine vision applications, for example. The illumination lens shown here is part of a 3-D scanner featuring 18 optical elements. This miniature visualization system for measuring complex cavities is only 3.6 mm in diameter and slightly less than 20 mm long. Source: FISBA OPTIK AG.

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Information for editors:

FISBA OPTIK AG is one of the world's leading suppliers of customized optical components, systems and microsystems, supplying products for medical applications and biophotonics as well as the machine industry, industrial imaging and sensors, laser industry and aerospace.

www.fisba.com.

Contact:

Monique Tomaselli, Marketing Communications
FISBA OPTIK AG, Rorschacherstrasse 268, CH-9016 St Gallen
Phone. +41 71 282 31 31, Fax +41 71 282 31 30
E-mail: monique.tomaselli@fisba.ch, www.fisba.ch

Oliver Frederik Hahr, Consulting and Public Relations
oha communication, Seidenstr. 57, 70174 Stuttgart, Germany
Phone. +49 711 5088 6582-1, Fax: +49 711 5088 6582-9
E-mail: oliver.hahr@oha-communication.com, www.oha-communication.com