NEW AND INTERESTING AT PITTCON 2006

The following exhibitors at the recent PITTCON 2006 meeting provided these short summaries of what they considered new and/or interesting at their booths on this year's equipment floor.

Renishaw announces its **structural and chemical analyzer (SCA)** – a new analytical technique for SEM that combines the capabilities of a scanning electron microscopy (SEM) with the investigative power of Raman, photoluminescence (PL), and cathodoluminescence (CL) spectroscopies. SEM provides the means to visualise samples with high spatial resolution, large depth of field, and good contrast, whilst Raman, PL, and CL spectroscopies provide chemical, physical, electronic, and structural information. A micrometre-scale laser spot projected onto the surface of a sample visible in the SEM defines the area that is sampled for chemical analysis using Raman spectroscopy. Fully retractable optics, inserted between the SEM's objective lens and the sample, position the laser spot with sub-micrometer precision and repeatability, while retaining the ability to view the sample using secondary electron imaging, and to analyse it using energy dispersive spectroscopy (EDS). The Raman collection optics are also suitable for CL and PL studies, so the electronic and physical properties of samples can also be probed at the sub-micrometre scale. The SCA can be configured to fit most makes and models of SEM, it supports a range of laser excitation wavelengths and techniques, and can be interfaced to any of Renishaw's renowned range of spectrometers. For more information, see: usa@renishaw.com

WITec has launched a new modular microscope generation, the alpha300 series. This series includes the **Confocal Raman Microscope "alpha300 R", the Scanning Near-field Optical Microscope "alpha300 S" and the Atomic Force Microscope "alpha300 A"** all driven by the new fully digital control unit "alphaControl". The controller's revolutionary new system-on-a-chip concept enhances not only user friendliness but also speed, flexibility, accuracy, expandability and timing precision. It enables various new features and automatic measurement procedures to be employed for the first time. The digital signal processing reduces noise to extremely low levels and significantly enhances data and image quality. The integrated software for measurement control is the key to the unique features of the alpha300 series. It navigates the user through the measurement tasks while intuitively providing a user interface that changes automatically depending on the method used. Contact: Harald Fischer E-mail: harald.fischer@witec.de Phone: +49(0)731 140-700

Bruker AXS Microanalysis, a division of Bruker AXS Inc., announced the international launch of **QUANTAX™ QUAD**, an innovative EDS system for X-ray microanalysis on electron microscopes, for Pittcon 2006. The system features the QUAD XFlash® 3001 Detector — the first four-channel 40mm² Silicon Drift Detector for electron microscopy. Powered by ESPRIT EDS Software, QUANTAX QUAD delivers fast and reliable results across a broad range of applications, and is especially suitable for FESEMs, environmental and low vacuum SEMs. Four independent 10mm² Silicon Drift Diodes (SDD) with integrated anodes and FETs form the heart of the QUAD detector. This arrangement provides the high-energy resolution of a conventional 10mm² Si(Li) detector with up to 20 times the count rate: in excess of 2 million counts per second! Standard energy resolutions are better than 133 eV, and resolutions of <127 eV are available upon request. Cooled by Peltier technology, the detector requires no liquid nitrogen and is vibration and maintenance-free. To learn more about the complete line of X-Ray Microanalysis systems and detectors offered by Bruker AXS Microanalysis, visit our website at www.bruker-axs-ma.com, or give us a call at (609) 771-4400.

MarketLab introduced a **Dual Head Microscope** with a 360° rotating head for two users. Each head is equipped with dual diopter adjustments. The standard high eye point of 10x wide field eyepieces enable use of the microscope without having to remove glasses or protective masks. It includes a Koehler illumination field diaphragm, which delivers superior contrast control. Advanced DIN standard achromatic objectives: 4x, 10x, 40x, 100x (oil). The 40x and 100x are spring-loaded retractable. The microscope includes an abbe condenser NA1.25 with iris diaphragm, filter holder and blue filter. It measures 7"W x 8.75"D x 15.25"H. Replacement halogen bulbs and fuses are available.

MarketLab is introducing the Microscope Arm Rests, comfortable 12"L x 8"W padded surfaces that help prevent strained muscles, poor circulation and aching joints. The Rests can be clamped onto any 2" thick benchtop overhang and their angle can be adjusted. Visit www.marketlabinc.com for hundreds of Unique and Hard-to-Find Products for the Clinical Laboratory!

4pi Analysis demonstrated the power and unique capabilities of its x-ray microanalysis system–**RevolutionEDX**–running with a new addition to its product line: SII NanoTechnology USA's Vortex-EM Silicon Multi-Cathode X-Ray Detector. With a single 50mm² active-area detector (equivalent to five 10 mm² detectors), the **Vortex-EM** offers high-throughput (up to 1,000,000 input cps) in addition to excellent resolution (130-131eV is typical @10k input cps) and low-energy performance. The detector fits 95% of all existing SEM EDS ports and requires no changes to the standard x-ray collection geometry. A large-area detector with a single set of electronics offers reliability by minimizing multi-point failures. Engineered for ultra-high-speed spectrum imaging, RevolutionEDX goes beyond simply saving the spectrum at every pixel: the electronics and software provide complete interactive control with rapid acquisition of both electron and x-ray information. The user can start collecting spectrum images; and, while images are collecting, change element and energy selections as many times as desired without stopping to re-start the collection. With a high-throughput detector, the time required to collect large spectrum images is reduced from hours to only a few minutes. In addition to high-performance spectrum imaging, RevolutionEDX offers enhanced spectrum processing during collection of standard probe x-ray spectra. A superior auto-peak ID method deconvolutes peak overlaps in real-time to automatically identify elements with severe peak overlaps (such as MnF and PbS) and reduce erroneous single element identifications. For more information, contact 4pi at 919-489-1757. Web: www.4pi.com. E-mail: sales@4pi.com.

The new **EDAX Trident System** offers a unique combination of EDS, EBSD, and WDS in one analytical tool that uses the latest technology for all three techniques. The system's hardware, patented Chl-Scan applications software and data integration provide improved speed and accuracy of data processing and analysis within a single PC environment. The need to compromise the performance of one tool to optimize the performance of another is also drastically reduced or even eliminated, depending on the scanning electron microscope's (SEM's) chamber configuration. For more information contact Judy O'loughlin at Info.edax@ametek.com or call 1-800-535-3329

JEOL USA demonstrated the new multiple-image live display function, video capability, and improved low kV operation of its new line of SEMs. Visitors brought their own samples to image with the new **JSM-6490LV**, featuring selectable low vacuum and a five-axis eucentric stage for specimens up to 300mm diameter x 80mm tall. The new SEM series enables simultaneous observation of up to three different images (secondary electron, backscattered electron, and digital camera), on-screen measurement, and smart settings for simplified functionality. Improved electron optics enhance both general purpose imaging as well as analysis at the nanoscale. The new JSM-6390/6490 series comprises five models, offering a choice of low vacuum operation, three stage sizes, and goniometer stage axis control. In addition, JEOL USA offers a wide range of specially-designed sample holders for its US customers.

JEOL USA also demonstrated **Web SEM**, a remote control option, which was linked to an SEM in the company's Peabody, Massachusetts headquarters. Samples imaged for demonstrations included those produced on the **JEOL Cross Section Polisher (CP)**, a benchtop device on display in the JEOL booth. The CP uses a broad argon ion beam to precisely polish surfaces without deformation while preserving internal structures. During milling, the sample is rocked automatically to prevent beam striations. The CP can produce pristine cross sections of soft, hard, and composite materials including but not limited to paper, print toner, solder bumps, and coated materials. The ability to prepare large area cross sections of few hundreds of microns offers greater analysis flexibility.

INDUSTRY NEWS

South Bay Technology, Inc., (SBT) announces new **Final Finishing Film products** that produce superior surfaces for analysis. True Blue™ and Final Green™ abrasive films are produced with a proprietary process combining a unique mixture of abrasive particle sizes and shapes that are bonded to a film backing which enable the film to produce finer surfaces than are normally found in similarly graded micron films. True Blue™ film is typically used after the 1 micron diamond lapping film step and provides a flat, nearly scratch free surface. Final Green™ film is typically used after True Blue™ film and produces an ideal sample surface for analysis.

SBT FIB Holders Secure and Protect Focused Ion Beam Milled Samples, Fortress™ FIB Holders are reusable holders that secure FIB samples, which are held

in a specific orientation without the use of adhesives, adhesive pads, or conductive paint. Fortress™ FIB Holders can be used to position a thin, whole or cut TEM grid/disk in an orientation such that either an in-situ or an ex-situ FIB lift-out technique can be used to attach a FIB-prepared sample. Physical protection of the mounted sample on the grid is provided with the **CastleGuard™ protection** design. CastleGuard™ protection provides a rigid support structure that shields the sample while allowing required access for processing. Fortress™ FIB Holders are designed to fit into the SS200 SampleSaver™ storage container for storage and transport in an inert environment. Up to 30 Fortress™ FIB holders can be stored in a single SS200 SampleSaver™ storage container.

SBT Portable Storage Container securely holds microscopy samples and prevents oxidation. A new sample storage system has been introduced for the transport and storage of critical samples in an inert atmosphere. The SampleSaver™ Portable Storage Container system is a specialized container that enables a user to replace the reactive atmospheric air present in the container with an inert gas. Once a sample is stored inside the inert atmosphere, the sample does not undergo reactions such as oxidation during storage and/or transportation. It is ideally suited to the preservation of microscopy samples that may undergo changes during the delay between sample preparation and analysis. Special holders are available for secure storage of samples for TEM, SEM, EBSD, FIB and SPM. The storage container can be evacuated and backfilled or purged with an inert gas. Gas can be supplied by connecting it directly to an inert gas cylinder or dry nitrogen can be boiled off of liquid nitrogen and pumped into the storage container using the **Thing-A-Ma-Jug™ Cryogen Gas Supply**. For more information, call (800) 492-2600 or visit www.southbaytech.com

Thermo Electron Corporation demonstrated modernizations made to the user interface and architecture of its leading laboratory information management system **SampleManager (LIMS)**. SampleManager LIMS has adopted the Microsoft .NET framework while continuing to support existing customers' custom code written in the VGL language. With version 9.0 scheduled for release in Q2 2006, SampleManager users will find a modernized user interface that is modeled on the familiar and easy-to-use Microsoft template with drag-and-drop and menu/tree functionality. When users select data sets, the new, "inductive" interface simplifies work by presenting only certain, pre-defined tasks or steps that can be followed - greatly reducing errors and saving time. Offering Microsoft .NET architecture, Thermo's plans for SampleManager include building application-specific functionality for industrial labs so that users in the petrochemical, chemical and other process industries will find more of the functionality they require in the base system, and not have to customize the LIMS to meet their needs. This commercial-off-the-shelf (COTS) approach significantly reduces the risks and costs associated with customized implementations, maintenance and upgrades, and, for regulated industries, the cost of validating the system. For more information please call Thermo Electron at 866-463-6522 or e-mail marketing.informatics@thermo.com

Infinitesima Limited announced today that it has certified Veeco's MultiMode Scanning Probe Microscope to be compatible with the **VideoAFM**(TM). The instrument delivers real-time video at the molecular-level, allowing researchers to operate the instrument much like an optical microscope, but at nanometer resolution. Because of its ability to view dynamic molecular processes in real-time, the VideoAFM is becoming a fundamental tool in the fast-growing area of Bio-Nanotechnology research. The MultiMode Scanning Probe Microscope from Veeco is used widely by researchers in the Bio-Nanotechnology field, and this announcement signifies that the VideoAFM may now be used in conjunction with the MultiMode in these areas. VideoAFM: The VideoAFM is the first commercially available Atomic Force Microscope that is capable of delivering real-time images at video frame rates. With imaging rates of 1000 times faster than conventional AFM's, the VideoAFM allows users to visualize and interact with chemical or biological processes, at the molecular level, in real time. The VideoAFM also allows large surface areas to be explored before selecting features of interest for a more detailed investigation. A list of all the AFM's that are compatible with the VideoAFM is available for download at www.infinitesima.com. For further information contact: Keith Gambles - keith.gambles@infinitesima.com, or visit www.infinitesima.com.

Anasys have launched an **accessory for most commercially available AFMs that will bring the ability to make local thermal analysis measurements with sub-100nm resolution** a reality. With nanoparticles and nanocomponents being used in so many industrial applications today, it is becoming imperative to be able to study materials properties at the nanoscale. While bulk properties are important to recognise operational behaviour and lifetime expectancy, researchers need to understand how materials behave on much finer scales. In previous systems, the resolution was determined by the size of the probe. Now with improved micro machining techniques available together with a clearer understanding of thermodynamic behaviour under a tip, Anasys has manufactured a new generation of probes that brings both high resolution imaging and thermal measurement. This means that a researcher may study events such as the glass transition or melt behaviour on the nanoscale. With such high resolution, crystalline and amorphous phases may be resolved with clarity. Visit www.anasysinstruments.com to learn more about the Anasys philosophy, their products and services.

Gatan Inc. is excited to introduce a new high performance camera to its extensive portfolio of imaging products: the **ORIUS™ SC1000 CCD Camera (Digital Imaging)**. ORIUS™ is a new family of fiber-optically coupled CCD cameras designed to meet the needs of both Materials and Life Science applications. This camera uses advanced CCD interline technology together with sophisticated electronics, designed to maximize image quality. With a high frame rate (>14fps real-time) and a CCD resolution of 11 Million pixels, the SC1000 is an ideal camera for replacing the TEM viewing screen, recording electron diffraction patterns, and observing dynamic events inside a TEM (in-situ experiments). ORIUS™ is available in both the 35mm port and bottom port mounting positions.

Gatan Inc. recently launched a new addition to its Erlangshen family of high speed, affordable CCD cameras: the **ES1000W Erlangshen CCD Camera (Digital Imaging)**. The ES1000W is an affordable optical-lens coupled CCD camera designed to meet the needs of general purpose digital imaging. This camera uses advanced CCD interline technology together with sophisticated electronics, designed to maximize image quality. With a high frame rate (12fps real-time) and a CCD resolution of 11 Million pixels, the ES1000W is an ideal camera for replacing the TEM viewing screen, sharing images or recording movies via built-in Digital Streaming video, and viewing your specimens with a field of view greater than conventional plate film. This camera is installed in the 35mm ports of a TEM. Contact: info@gatan.com for more information.

Carl Zeiss NTS and SII NanoTechnology announce a global strategic alliance on Nanotechnology Solutions Worldwide, sales and service of joint product portfolios, and product development. Combination of market leading electron and ion-beam technologies will allow customers to benefit from complementary strengths of both companies, thereby pushing the limits for nanotechnology applications even further.

Micro Vision Systems, Inc. announced today that it has launched TrueVision™, a real-time, high-definition, 3D image capture and display system for stereomicroscopes. The **TrueVision 1000** product is the first and only system available today that provides real-time visualization and digital image processing at full high-definition resolution in 3D for science, medicine, and industry. Instead of what is normally seen only by the one person looking into the microscope's eyepieces, the product displays the images on monitors or projection screens allowing the operator and onlookers to comfortably observe what is happening. The patent-pending system is designed for all stereo microscopy applications and is compatible with the installed base of most stereomicroscopes used today. The product comes complete with a Sensor Module, Image Processing Unit, and Display System. The Sensor Module replaces eyepieces on a microscope and connects to the Image Processing Unit that displays the high-resolution image to a 3D monitor or projector. The Display System can be configured with a high-definition monitor, a rear-projection big screen or both. TrueVision also features the ability to store images at the touch of a button for record keeping, documentation, and sharing without giving up the resolution, color, and stereo depth found in the original optical image. For sales and other information please contact the company. Micro Vision Systems, Inc. Tel: (805) 879-5200 Web: (http://www.microvisionsystems.com)

The first stage of **Oxford Instruments** NanoAnalysis' refocus on the developing requirements of nanotechnology world-wide, is evident in the latest release of the **INCA microanalysis suite –Issue 17**. New processes and product enhancements reflect the growing requirement from customers to further improve and simplify functionality and speed. Key new INCA microanalysis suite features include Quantmap, which allows the quantitative mapping of samples, using previously collected Smartmap data, and Spectrum Examiner, a new software tool, specifically designed to ensure elements from minor phases can be identified in an easy and intuitive way. Additionally, a number of significant enhancements have been made to INCAFeature, making sample areas easier to define and edit, and for TEM customers there is the addition of Spectrum reconstruction overlay for elemental peak analysis. For more detailed information, please visit www.oxford-instruments.com or contact Oxford Instruments on: nanoanalysis@oxinst.co.uk.

Bitplane has launched **Imaris 5.0**, the newest version of its cutting edge software for the post processing and analysis of 3D and 4D microscope images. Imaris offers microscopy researchers maximized interpretation of data and shortened analysis time for typical microscopy analysis tasks including tracking cell motion over time, measuring volume changes in organelles or tracing neurons. Simply put, Imaris produces results fast. For more information visit: http://www.bitplane.com

The new **TM-1000 Tabletop Microscope** from Hitachi High-Technologies is set to transform the field of basic microscopy. This novel instrument gives a performance in excess of an ordinary optical microscope. Operation of the TM-1000 requires no special sample preparation for hydrated, oily or non-conducting samples and is as easy to use as a digital camera. The TM-1000 utilizes scanning electron microscope (SEM) technology. It is easy to use while retaining powerful imaging capabilities. Surface morphology is shown in stereoscopic detail with images in contrast due to different average atomic number composition within the sample. This allows different phases in materials to be distinguished or heavy metal-labelled areas in a specimen to be located with ease. A built-in measurement function allows dimensional information to be acquired quickly and easily. This compact instrument accepts samples up to 70 mm in diameter and 20 mm thickness. It is equipped with auto-focus, auto-brightness and auto-contrast functions and features a magnification range of 20 – 10,000x using standard imaging and up to 40,000x using digital zoom capabilities. All images are recorded digitally on a computer for easy access. The extensive functionality of this simple-to-use microscope enables even non-specialists to effortlessly obtain images of outstanding quality. For more information, contact Hitachi High Technologies America at 800.227-8877 or Beth Moseley@beth.moseley@hitachi-hta.com

A new single-column focused ion beam (FIB) system from JEOL makes automated, high-speed specimen preparation affordable at nearly one-third the cost of dual beam FIBs. The **JEOL JEM-9320 FIB** prepares thin films and cross sections for failure and defect analysis at the nanoscale using S/TEM, TEM or surface observation. An ion beam current of 30nA at 30kV delivers fast, automated precise milling of specimens, which can be observed in situ at a 6nm resolution using SIM imaging, a method of increasing channeling contrast to distinguish complex layer structures in semiconductor fabrications. By adjusting the beam current, the JEM-9320 FIB can also perform high-speed, pinpoint fabrications. The specimen stage can be rotated to precise angles through one-touch operation of the easy-to-use automation software.

JEOL USA recently demonstrated a revolutionary **remote capability for operating a transmission electron microscope** (TEM) using a laptop computer with a cellular network connection. While seated at a picnic table 300 miles away, JEOL applications specialists manned the controls of a JEM-2200FS TEM operated at Lehigh University in Pennsylvania. Remote TEM operation is already the norm in laboratories across the U.S. Remote operation makes it possible for universities and research labs to share microscope time with students or researchers from other organizations. Now wireless broadband further expands the flexibility of JEOL TEM operation. Contact: 978-536-2273 - www.jeolusa.com

Buehler, Ltd. announces the introduction of the new **PowerPro® 7000, 8000 & 9000 Floor Mount Grinder-Polishers**! These machines expand on the same durability and ruggedness of the current PowerPro® Family, while providing the floor mount cabinetry capable of accommodating a recirculating coolant system, up to eight automatic abrasive modular dispensers and a four-drawer consumable storage cabinet. The large diameter platen and powerful base and head motors enable difficult to prepare materials and multiple samples to be prepared quickly and easily, and were designed for use in environments requiring large volume or large sized sample preparation. The PowerPro® Family of Grinder-Polishers is the first machine which allows sample preparation using the Zaxis™ Macro Material Removal System, a unique system that enables an operator to remove material from samples by desired depth. A powerful 2 H.P. (1800 W) motor and a large 10" or 12" (254 or 305mm) diameter platen can prepare up to ten samples simultaneously. Other features include a LCD screen with backlighting, soft touch-pad controls, variable platen speed, dual head speed, eight language display selection and platen cooling capability. The PowerPro Family of Floor Mount Grinder-Polishers is offered in three models: The PowerPro 7000, 8000 and 9000. All of the systems offer central force operation, and versatility can be increased by selecting a model with single force operation or advance programmability. The PowerPro 9000 allows the operator to use one of the 25 pre-programmed Buehler Sum-Met™ preparation methods or custom create up to 25 user defined methods. For more information, contact Buehler, Ltd., 41 Waukegan Road, Lake Bluff, IL 60044.

New challenges require new standards of measurement accuracy. If you're measuring nanometers, you can't rely on micron pitch standards. With a grid pitch of 144 nm, the **Model 150-2D calibrator** from Advanced Surface Microscopy fulfills that need. This specimen is extremely easy to use in both SEM and AFM. Construction: The pattern consists of rounded aluminum bumps 70-80 nm high on a silicon chip 3x4 mm. Please read more about Model 150-2D and our full line of calibration and test specimens.In SEM, it produces excellent contrast at all voltages. In AFM, it produces clear images in all modes with all standard probes. Even worn probes can make good images. The sample can be scanned in STM in air. The 2-dimensional grid allows calibrating both X and Y magnification at the same time. The pattern covers the entire area of the specimen, not a tiny spot you must carefully find. The pattern is continuous, so that image size is limited only by the number of pixels. If your microscope uses 512x512 pixel images, scan sizes of 250 nm to 10 um are most useful. With more pixels, you can scan proportionately larger areas. For more information contact Advanced Surface Microscopy, Inc.

Optronics® announces the introduction of **Microcast,**™ a revolutionary Firewire® based digital 3CCD microscope camera for surgical and other critical microscope imaging applications. The application of digital photomicrography is now universally recognized as a versatile means for broadcasting, documenting and recording surgical microscope images. High-quality digital images however can be difficult to obtain on most surgical microscopes. Microcast™ is the first true medical grade microscope camera developed specifically for surgical microscopes. The camera delivers real-time 36-bit RGB image processing and extreme dynamic range that produces unsurpassed digital image quality in all surgical microscope disciplines. Contact: Richard Crandall 800.796.8909 x. 3980. http://www.optronics.com

FEI Company and Sweden-based Sidec Technologies AB today announced that the two companies **will collaborate on the commercialization of Protein Tomography solutions and services** based on Sidec's proprietary software and intellectual property, and FEI's transmission electron microscopes (TEMs). Protein Tomography is a new technology developed to address critical issues around drug target validation and translational medicine in the pharmaceutical industry, improving target validation processes and shortening development time for new pharmaceuticals. Based on current market practices, Protein Tomography is estimated to be a (U.S.) $200 million market with the potential to grow several fold within a few years.

Imago Scientific Instruments announced today that it **has acquired** atom probe company Oxford NanoScience Ltd. from UK based, Polaron plc (LSE: POL). "We are very excited about this acquisition and the contributions it will make to our business going forward," said Timothy Stultz, President and CEO of Imago. "By combining the ONS technology, products, intellectual property and Atom Probe Team with those of Imago, we further strengthen our ability to bring the best-of-breed and most comprehensive set of **Nanolytical® Solutions** to the market and our customers," he continued. Imago Scientific Instruments announced today that it has completed a $3.4 million round of equity funding led by Draper Fisher Jurvetson (DFJ), Portage Venture Partners (PVP) and Cipio Partners. The capital raise comes less than 2 weeks following Imago's acquisition of Oxford. nanoScience (ONS) from UK-based Polaron plc.For more information, contact:: Timothy Stultz, +01.608.274.6880, information@imago.com www.imago.com.

ProgRes® microscope cameras from JENOPTIK Laser, Optik, Systeme GmbH have developed into a stable asset of numerous laboratories in science and industry during recent years. Currently, the **ProgRes® product line** comprises nine different models with resolutions from 1 to 12 megapixels, configurable with monochrome or color-CCD sensor. Whether quality assurance or life sciences, the user may choose the camera that fits his specific needs in virtually any industrial laboratory or other microscopy areas. Image capturing performed with ProgRes® microscope cameras is an easy-to-handle process because of the ProgRes® Capture Pro software package which is included in delivery. The package provides functions for image capturing and enhancement, as well as some basic measuring functions. For specialized applications, a steadily growing choice of image analysis and management solutions is available. An example provides the ImageAccess easyLab by IMAGIC Bildverarbeitung AG. easyLab is an image and document management system which has been specifically developed for microscopy laboratories. Using easyLab, you may process, analyze, manage, document or present digital images. The easyLab integrated camera controller for ProgRes® C10plus, C12plus and C14 cameras combines a given camera with related image processing software to yield a harmonized system for the workplace of a microscopist. Contact: JENOPTIK Laser, Optik, Systeme GmbH Phone: +49 3641 65-2138, www.progres-camera.com, www.jenoptik-los.de