

### Lightweight remote-head camera

TOSHIBA IMAGING SYSTEMS



A miniature high-definition CMOS remote-head camera is the latest model released by Toshiba Imaging Systems Division in California. The IK-HR1H camera head measures only 30 mm × 35 mm × 36 mm and weighs 48.9 g, excluding the lens. It is designed to be controlled either by Toshiba's IK-HR1CD or IK-HR1CS camera control units. The IK-HR1CD delivers high-definition 720p/1080i/1080p video signals through a DVI-I interface, whereas the IK-HR1CS delivers high-definition 720p/1080i signals through an HD-SDI interface. Because of the compact design and the simple connection between the control unit and camera head through a standard, 'power-over-camera' link, this camera suits imaging applications that have limited space. With the options of auto and manual white-balance and electronic shuttering, the company says that the device is attractive for applications in microscopy, diagnostic imaging, industrial inspection and aviation.

[www.cameras.toshiba.com](http://www.cameras.toshiba.com)

### HD sensor for security and surveillance

The OV2715 — an 8.5-mm 1,080-pixel high-definition (HD) CMOS image sensor — is the latest product from OmniVision Technologies, a company based in California. Building on a 3- $\mu\text{m}$  OmniPixel3-HS pixel, it offers a low-light performance of 3,300 mV lx<sup>-1</sup> s<sup>-1</sup> and a peak dynamic range of 69 dB. The sensor has a display resolution of 1,920 × 1,080 pixels and operates at 30 frames per second. Designed for HD video and low-light performance, the sensor can be used in internet protocol cameras and HD closed-circuit televisions even in the most challenging lighting conditions, and is therefore suitable for commercial security and surveillance systems. Because of its operating temperature range of -30 °C to 70 °C, it suits both indoor and outdoor applications. The company revealed that the device will be mass-produced in the fourth quarter of 2009.

[www.ovt.com](http://www.ovt.com)

### Single-molecule detection platform

Leica Microsystems, a German company specializing in microscopes and imaging equipment for medical, scientific and industrial use, has released a single-molecule detection platform — the Leica TCS SMD series. The series combines a confocal microscope (TCS SP5 II) with single-molecule detection software and hardware from PicoQuant into a single system. Offering many forms of fluorescence spectroscopy, the platform brings new functionality to confocal imaging. According to Leica Microsystems, the single-molecule detection scheme can be useful for examining dynamics and interactions inside cellular systems, and the spectral confocal imaging techniques help maximize the extracted information that is inherent to fluorescence.

[www.leica-microsystems.com](http://www.leica-microsystems.com)

### CMOS image sensor for industrial imaging

e2v, a company located in Chelmsford, UK, has introduced a new high-sensitivity 1.3-megapixel CMOS image sensor, the EV76C560. It is designed for industrial machine vision, surveillance and other demanding imaging applications, and offers excellent quantum efficiency as well as the ability to quickly switch to a true four-transistor electronic shutter mode. It is therefore capable of capturing fast-moving objects with an optimized signal-to-noise ratio performance, which is ideal for use in low-light conditions or when very short integration times are needed. The device has 5.3- $\mu\text{m}$  pixels and features embedded image pre-processing and a bi-frame wide dynamic range of >100 dB, free of artefacts. The company says that mass-production of the device will commence by the end of the year, and samples are already available. The company is now developing a 2-megapixel version of the imager, which should be available early next year.

[www.e2v.com](http://www.e2v.com)

### Trinocular stereoscopic microscope

Nikon Corporation has added a trinocular stereo microscope to its range of stereo zoom microscopes. Based on an optimized Greenough optical system design, the SMZ745T boasts a zoom magnification of 7.5 $\times$ , the highest in its class. When combined with additional objectives and eyepiece lenses, a total magnification range of between 3.35 $\times$

and 300 $\times$  can be achieved. In addition to the high zoom-ratio and magnification, the SMZ745T also offers an unrivalled 115-mm working distance, giving ample room for positioning and manipulation of the sample. Because of the trinocular-type camera port and a built-in 0.55 $\times$  C-mount adapter, the microscope allows direct mounting of any Nikon DS Series digital camera. An optical path switching lever enables images to be easily switched between the eyepiece and camera, simplifying the processes of digital imaging and capture. The antimold, anti-electrostatic design of the SMZ745T makes it suitable for use in various working environments in industrial and biomedical fields.

[www.nikon.com](http://www.nikon.com)

### Luminescent imaging for photovoltaics



ANDOR TECHNOLOGY

Andor Technology, based in the UK, has introduced a high-performance CCD camera for electro- and photoluminescence imaging of photovoltaic cells and modules. The device, the iKon-M BR-DD, combines low-noise electronics and optical sensitivity in the near-infrared region. It has a quantum efficiency of 88% at a wavelength of 900 nm, and 46% at 1,000 nm. With a 13- $\mu\text{m}$  pixel size, it offers 1024 × 1024 pixel resolution at multi-megahertz readout speeds. By incorporating Andor's 'fringe suppression technology' into a back-illuminated deep-depleted sensor, the camera offers ultimate performance for near-infrared applications with minimized fringing effects. It also benefits from reduced noise and blemishes — essential for optimizing sensitivity — due to thermoelectric cooling down to -100 °C. With an integration time of 0.2 s, the company says that the iKon-M BR-DD is perfectly suited for fast inline electroluminescence inspection of photovoltaic cells.

[www.andor.com](http://www.andor.com)