INDUSTRIAL PHOTONICS VISION

A quarterly newsletter featuring the latest advancements in and applications for industrial vision systems - from sensors to software. Manage your Photonics Media membership at Photonics.com/subscribe.

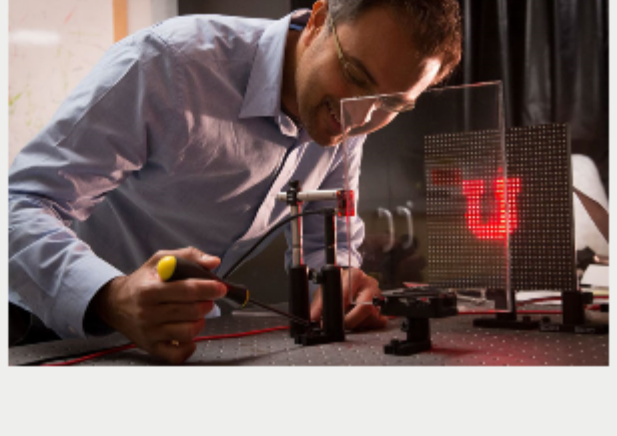## Industrial Vision News

Computational Imaging Enables a Camera to Use a Window as a Lens
An engineering team has found a way to use a regular pane of glass or any see-through window as a camera lens. The technique uses a computer algorithm, instead of a lens, to identify, decode, and focus the image.

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Machine Vision Software Needs to be Future-Proof
Machine vision solutions can be used for a wide range of tasks, such as defect inspections, positioning, handling workpieces, and recognizing and identifying objects. One challenge is to pick a software system that best fits requirements and can be a tool for upcoming tasks. Following a few straightforward criteria can help.

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Featured Products
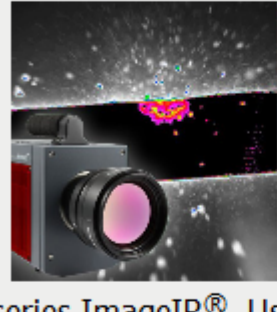
Versatile Two in One Cameras
InfraTec GmbH, Infrarotsensorik und Messtechnik
InfraTec offers an entirely new level of flexibility for its high-end camera series ImageIR®. Users can choose between two speed modes for the same camera. In normal mode, the familiar frame rates for full frame, half frame and sub-frame are available with full spatial resolution.

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Perfectly Focused: USB 3.1 Gen 1 uEye LE Board Level Cameras
IDS Imaging Development Systems GmbH
Liquid lenses of the new USB 3.1 Gen 1 cameras can be focused via software or API. New models of the uEye LE USB 3.1 Gen 1 board level cameras with S-mount or CS-/C-mount from IDS are available as focusable models, matching liquid lenses are offered separately.

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Coaxlink Quad CXP-12 - Let's Double the Bandwidth!
Euresys s.a.
Euresys is pleased to announce the addition of the Coaxlink Quad CXP-12, a 4-connection CXP-12 frame grabber, to its existing Coaxlink series. CXP-12 is the top speed of the latest version of CoaxPress 2.0. It operates at exactly 12.5 Gbps! So it is twice the existing speed of the CXP Standard.

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IDL Long-Travel Industrial Linear Stages
Newport Corporation
The long-travel IDL industrial-grade linear stages boast the highest load capacity and speed of all linear motor stages with a wide variety of sizes and travels to choose from, making it well-suited for demanding production environments. They are also known for their outstanding accuracy and improved pitch and yaw specifications.

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Machine Vision
Photonics Media
Machine Vision is a new book for anyone designing or selecting machine visions systems, and implementing or considering the use of machine vision for a specific application. This engaging overview is a resource for designers, engineers, researchers, marketers and students looking for a broad survey of advancements in systems, components and processes.

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High Performance Filters for Machine Vision
ContrastMax **Chroma Technology Corp.**
ContrastMax filters from Chroma feature sputtered interference coatings engineered for automated vision applications like machine vision and robotic guidance. These optical filters offer superior levels of contrast and blocking of unwanted light, while also performing well at wide viewing angles.

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More News

IR Sensors Make Smart Devices Smarter
From smart thermostats to sophisticated home security systems, IR sensors that detect presence and motion are making smart homes a reality. Thermal IR sensors are particularly well suited for machine-to-human interface because of their performance versatility, ease of integration, relative low cost, and sensitivity to human heat.

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Machine Learning Technique Can Rebuild Images That Go Through Multimode Fibers
Using a deep neural network (DNN) that imitates the way the brain processes images, researchers reconstructed images transmitted over multimode optical fibers at distances of up to 1 km. The DNN was trained to recognize certain images (in this case, handwritten digits) until it was able to recognize other images that were from the same category.
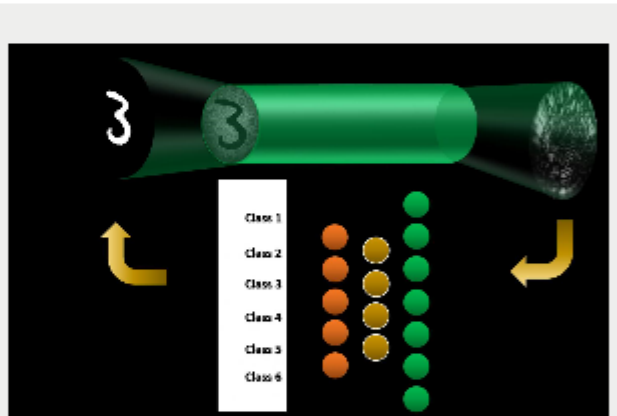
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### Advanced Imaging Techniques Enhance Fluorescence Sensing
New developments in imaging technology, in combination with advanced microscopy techniques, are enabling new applications for fluorescence sensing. For example, by combining light sheet fluorescence microscopy with super-slow-motion imaging, it is now possible to construct a 3D representation of a sample.
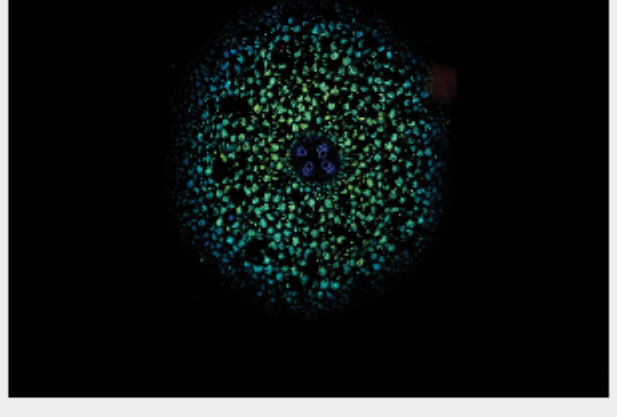
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Lensless Cameras May Offer Detailed Imaging of Neural Circuitry
Lensless imagers do not rely on lenses to form the image. Instead, a single thin optical element is placed between the sample and the sensor. The optic is designed such that each point within the volume casts a unique and identifiable pattern.
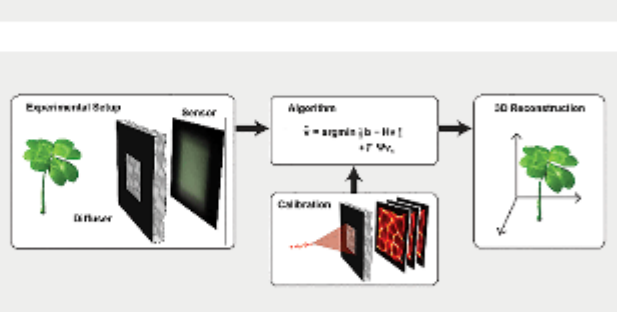
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Featured Video

Radiant Vision Systems - In-Line Assembly Inspection Station
See how this fully-integrated inspection station uses high-resolution cameras engineered for light measurement to detect subtle defects on complex electronic assemblies. The INSPECT.assembly system combines photometry-based imaging, machine vision lighting, and software in a turnkey fixture that can be deployed at any point on the line. Evaluate components to catch defects like misrouted cables, missing screws, loose connectors, and other details that may be missed by machine vision systems, human inspectors, or even functional test.
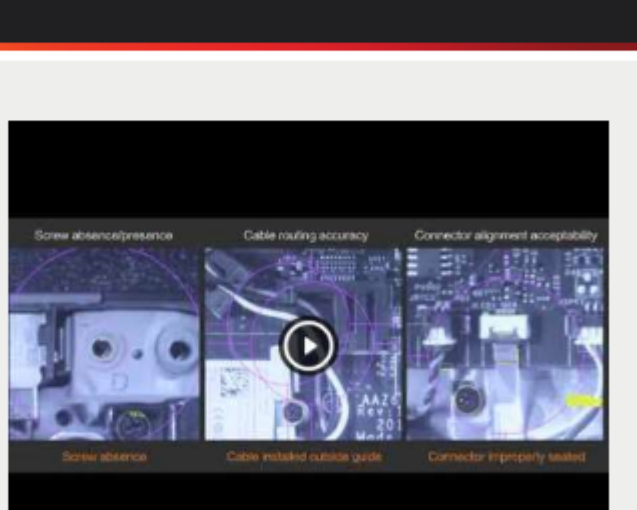
Watch Now

Webinars

Green Light on Lidar: Developing Low-Cost Systems for Autonomous Vehicles
Wed, Oct 3, 2018 1:00 PM – 2:00 PM EDT
For driverless cars to see mainstream adoption, engineers must solve critical lidar design challenges. This webinar will discuss the factors critical in accelerating the development of lidar, including the need to be able to quickly try out and identify new solutions; incorporate manufacturing and assembly limits into design constraints to ensure manufacturability; and simulate the impact of mechanical designs on optical performance. With tools that provide these abilities, teams can reduce development time and lower costs to win the race for autonomous vehicle market share.

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