

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.

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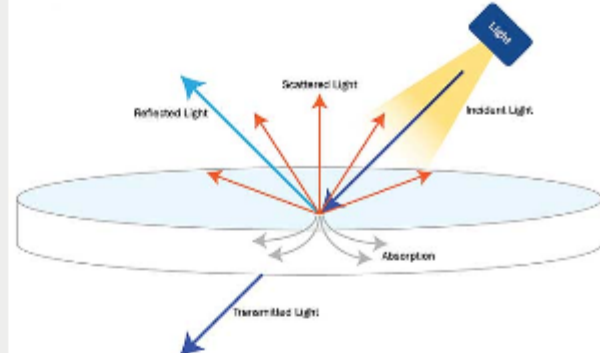


Machine Vision
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Industrial Vision News

Understanding Machine Vision Illumination

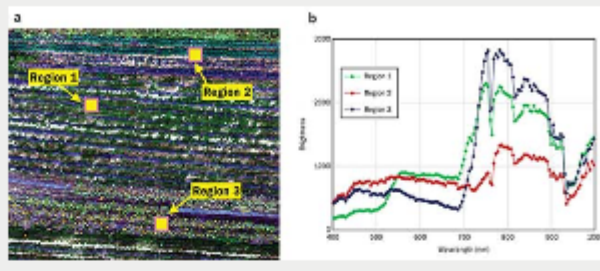
Illuminating a product to attain the best contrast available is important in machine vision applications: the higher the contrast, the greater the difference between the background and the features to be inspected. Using the correct wavelength of light, proper lighting configurations and appropriate filters can increase contrast and result in more efficient image processing and faster inspection speeds.



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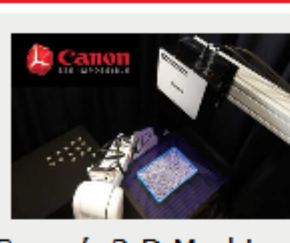
Hyperspectral Machine Vision Enables Smart Automation

Hyperspectral data combined with spatial pattern recognition algorithms can detect a wide range of materials, patterns, coatings, defects and contaminants. Hyperspectral vision systems generate data for quality control and also transmit information to robotic actuators, enabling automated picking and sorting of commodities.



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Featured Products



Canon 3-D Machine Vision System for Random Bin Picking

Canon U.S.A. Inc., Industrial Products Div.

Canon's 3-D Machine Vision System was developed in response to the needs of manufacturing industry to automate a simple task of random bin picking. Robot picks parts from an unstructured pile and places them to next production process. It is an easy task for humans but not for robots without eyes.

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New Vision App-based IDS NXT Vegas Model

IDS Imaging Development Systems GmbH

IDS has expanded its product range of vision app-based industrial cameras. A color sensor model of IDS NXT Vegas has joined the product family. German camera manufacturer IDS has also introduced a new firmware and a new cockpit to the market, which offer additional features and simplify the handling even further.

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AR/VR Lens: Measure Displays in Headset

Radiant Vision Systems, Test & Measurement

Displays viewed near to the eye, such as those in AR/VR devices, create immersive virtual experiences. However, as display images are magnified to fill a user's field of view, display defects are also magnified. Issues with uniformity of brightness and color, dead pixels, line defects, cloudiness, and image position become more evident to the user...

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ContrastMax High Performance Filters for Machine Vision

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

Improving Automation with 3D Vision

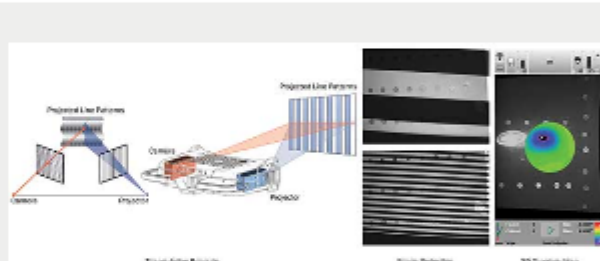
Getting part type, location, and orientation correct is critical to inspection, handling, and other automated tasks. The additional data in a 3D image makes it possible to execute challenging tasks, such as optical character recognition of the lettering on tires. What's more, 3D vision makes it easier to distinguish between robots or other machines and people.



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Application-Specific Machine Vision Simplifies Aircraft Maintenance

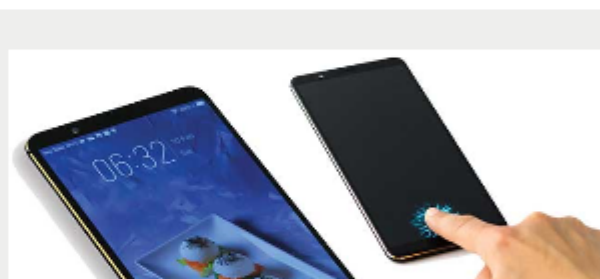
Vision systems technology shows significant promise to improve aircraft inspection efficiency while providing operators with a better understanding of airframe integrity and safety. However, to deliver these gains to an airline's bottom line, the vision system must coexist with and empower the technician/engineer.



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Optical Sensors Support the Rise in Automation

Optical sensors act as transducers by converting light to electrical signals that can be interpreted, measured, analyzed, and manipulated by instruments. From surveillance and monitoring to fingerprint recognition, optical sensors are essential instruments utilized in industries ranging from aerospace and defense, oil and gas, and health care and construction to consumer electronics and automotive.



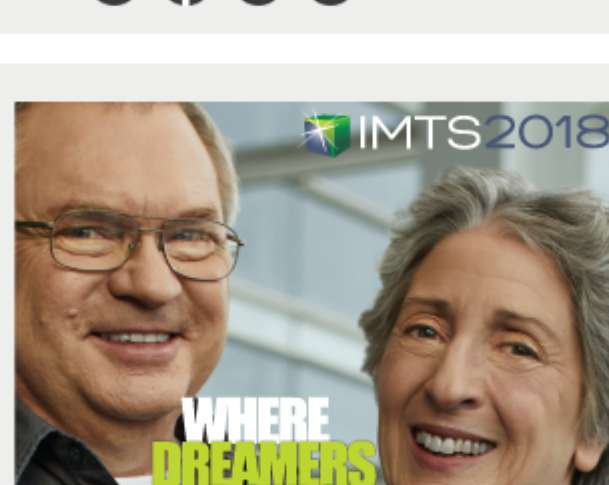
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Terahertz 3D Spectroscopy Boosts Imaging Applications

Terahertz imaging is a promising technique for noncontact, non-invasive, nonionizing 3D spectroscopy. Terahertz rays, located between microwave and IR on the electromagnetic spectrum from approximately 0.06 THz (60 GHz) to 10 THz, are capable of penetrating nonconductive materials and revealing information from within samples. Measurements use the time-domain profile information from a terahertz pulse to produce the 3D images.



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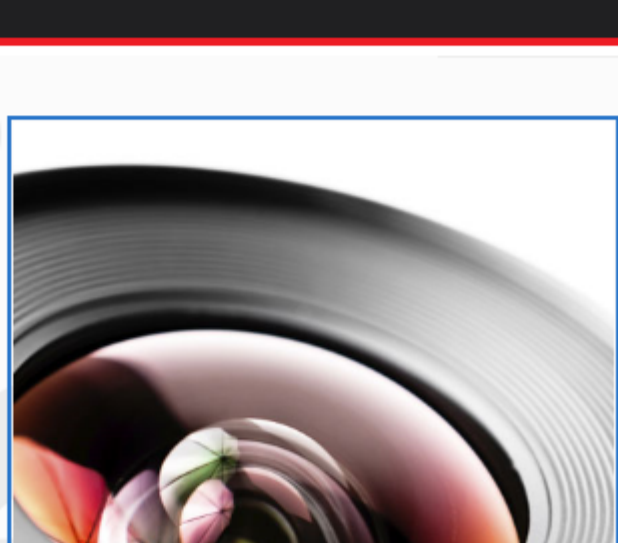


Webinars

Understanding Camera Resolution

Tue, Sep 18, 2018 1:00 PM - 2:00 PM EDT

In this webinar, you will learn how sensors and lighting affect camera resolution, and how different setups can affect the resulting image. You will learn a simple formula that will help you calculate the camera resolution you need for your application — and how to use the results of your calculation to achieve the best imaging results under a variety of real-world conditions. This webinar is sponsored by Midwest Optical Systems Inc.



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