



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

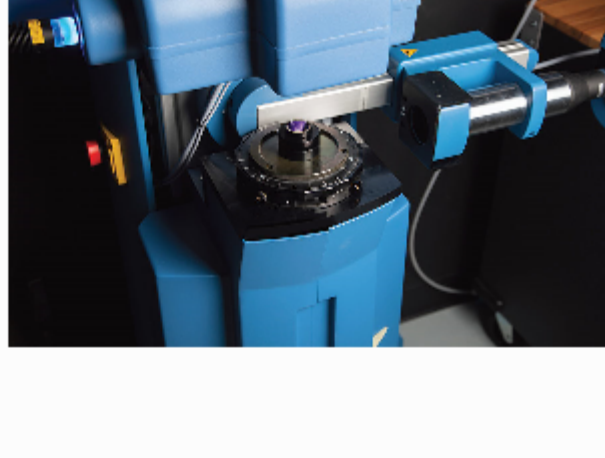
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International trade fair for quality assurance

07.-10. MAY 2019 STUTTGART

A Closer Look at Resolution Testing

In the days of VGA video cameras and predominantly analog storage, it was easy to make an imaging lens that would outperform the camera's ability to capture an image. That's no longer the case. Where 640 pixels once stood, it is not uncommon today to see 6 million. Cameras continue to offer smaller pixels (and more of them), and all machine vision users — from the largest integrators to the lone person in the lab — want to get the most out of this plethora of pixels. Lens manufacturers have had to up their offerings, pushing the limits of optics, mechanics, and design to keep pace.



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Deep Learning Boosts Defect Recognition Rates

As processes become highly automated and universally networked within the Industrial Internet of Things (IIoT), digitization is fundamentally changing industrial production. The production routine at manufacturing companies involves various machines and robots that perform an increasing number of tasks along the industrial value chain. While stationary robots have become commonplace in assembly halls over the past 20 years, a new generation of compact and mobile robots are integral to production workflows today. Collaborative robots, or cobots, frequently work alongside their human counterparts on the assembly floor. These collaborators complement each other, carrying out individual, perfectly coordinated process steps consecutively, and even handing off workpieces to each other.



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Vision Spectra - SPRING 2019



Vision Spectra is a global resource geared for the vision community, with real-world case studies of vision in action, comprehensive feature articles, and columns from experts in the field examining the trends that enable Industry 4.0.

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Featured Products



uEye CP Cameras with IMX226 from IDS

IDS Imaging Development Systems GmbH
IDS has integrated the high-resolution 12 MP IMX226 rolling shutter sensor into the uEye CP camera family, giving increased resolution, speed and sensitivity. The new models are available with the established GigE or USB3 interfaces and will be available from May 2019.

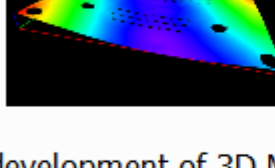
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Alluxa Ultra Series Filters and Coatings

Alluxa
Alluxa Ultra Series Filters, including Narrowband, Dichroic, UV, IR, and Notch filters, provide the highest performance optical thin film solutions available today. For example, the Ultra Series Flat Top Narrowband filters offer the narrowest bandwidths and squarest filter profiles in the industry.

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Easy3D - 3D Inspection Library

Euresys s.a.
The Easy3D library is a set of software tools enabling the development of 3D Machine Vision Inspection Applications. It is able to generate a depth map from a series of images that contain a laser line projected on the inspected object and computes a calibration model applied to depth maps to transform them into calibrated 3D point clouds.

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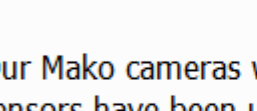


Gantries for 3D Printing

PI (Physik Instrumente) LP, Air Bearings and Piezo Precision Motion

PI provides high performance gantry systems with powerful and intuitive 3D printing software that allows direct import of industry standard STL files with flexible parameter settings and batch processing for multiple print jobs.

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Mako: Small Size, Powerful Performance

Allied Vision Technologies GmbH

Our Mako cameras with Sony Exmor Pregius CMOS sensors have been upgraded with enhanced functionality for even better connectivity and easier integration. Our five Mako models (Mako G-040, G-158, G-234, G-319 and G-507) now include PTP (Precision Time Protocol...

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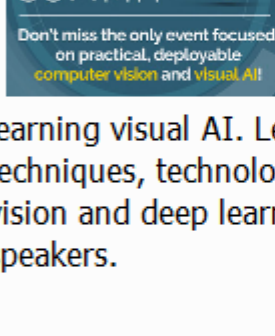


31.4 MP over 5GBASE-T PoE Camera

LUCID Vision Labs Inc.

The Atlas industrial camera is designed for imaging applications requiring high bandwidth and high resolution in a compact size. The 5GBASE-T Ethernet interface is 5 times faster than Gigabit Ethernet, 50% faster than USB3.1 Gen1 and works with up to 100 m of regular copper Ethernet cable.

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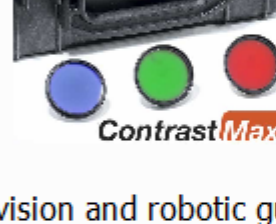


Embedded Vision Summit

Embedded Vision Alliance

The Embedded Vision Summit is the only conference focused on practical computer vision and deep learning visual AI. Learn about the latest applications, techniques, technologies, and opportunities in computer vision and deep learning with 90+ talks from 100+ speakers.

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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 Vision News

Indoor Autonomous Vehicle Navigates with Unprecedented Accuracy

In the mid-1980s, Vivek Burhanpurkar wrote one of the first academic theses about the role of artificial intelligence (AI) in self-driving systems in complex, unmapped environments. Over the years, the founder and CEO of Cyberworks Robotics Inc. has extensively tested and evolved the technology into a mature and robust multipurpose navigation solution for third-party OEMs of manually driven or pushed equipment such as wheelchairs, floor cleaners, and indoor transport vehicles. Burhanpurkar had been using Microsoft Kinect 2, but to improve the system's accuracy, Cyberworks needed a depth camera that was not only cost-effective and precise but also had a large field of view (FOV).



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The Future of Automation, Robotics, and Machine Vision

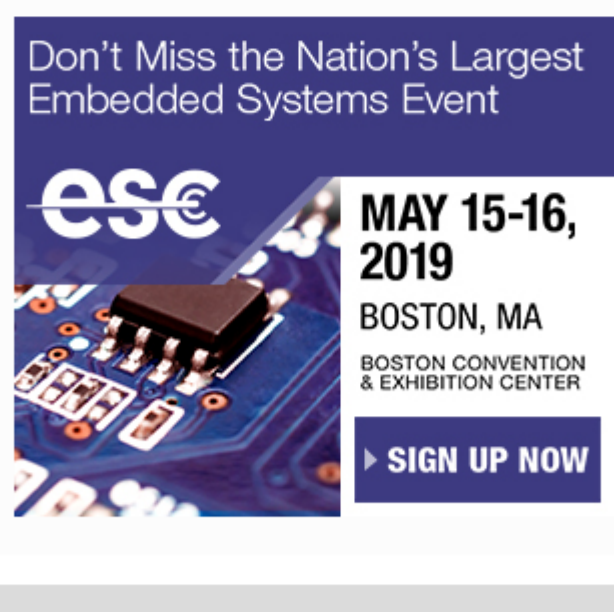
North America's largest event dedicated to recognizing trends in the automation industry, Automate 2019, returns to Chicago's McCormick Place April 8-11 to showcase leading-edge technologies and innovative solutions in robotics, machine vision, artificial intelligence (AI), motion control, and more.

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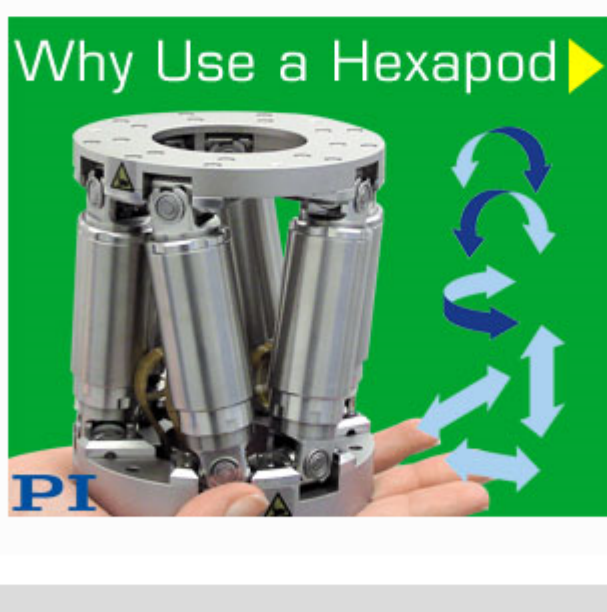
A Shakeout for Machine Vision OEMs?

Ronald Mueller is an expert in the global machine vision industry, with a Ph.D. in computer vision and machine learning. Based on his technical know-how, his experience as a corporate executive, and his first-hand experience in machine vision sales in Europe, North America, and China, he founded the consulting firm Vision Markets in 2014. He, his team, and the Vision Markets of experts are dedicated to making businesses thrive in this globalized growth market of machine vision.

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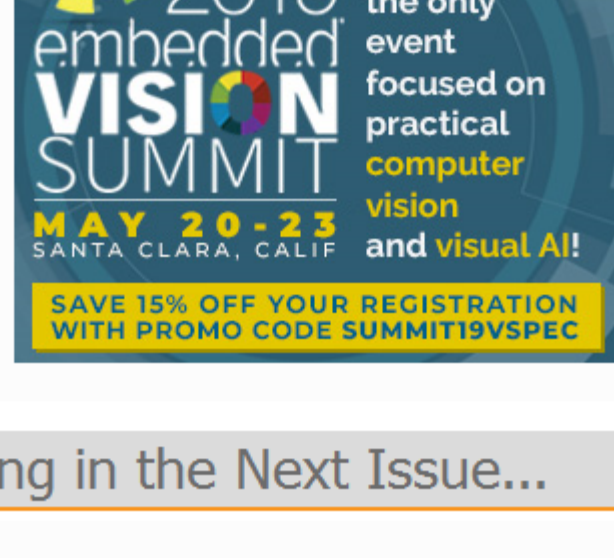
Webinars

IIoT and the Future of Vision

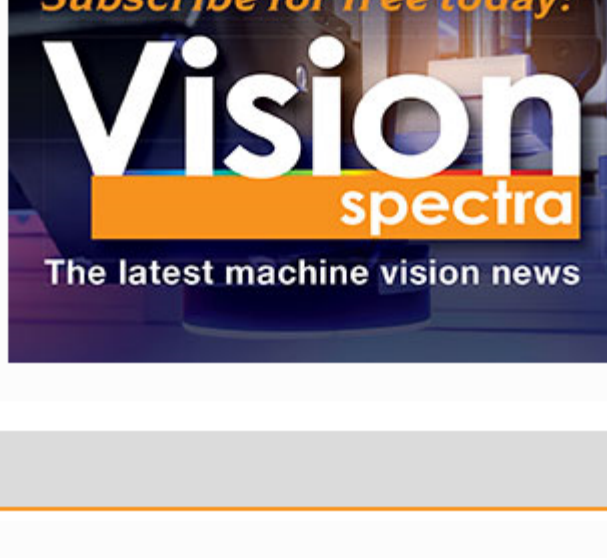
Wed, Jun 19, 2019 1:00 PM - 2:00 PM EDT
This webinar will discuss how the Industrial Internet of Things (IIoT) is advancing machine vision. Presenter Tom Brennan will discuss the enabling technologies in IIoT, including embedded computing devices, cloud computing, cameras and smart cameras, artificial intelligence, and more. Additionally, he will discuss how IIoT has the potential to improve productivity, reduce waste and downtime, optimize manufacturing processes, and improve machine vision applications.



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Coming in the Next Issue...

Features
Infrared Surveillance, Collaborative Robots, 3D Laser Triangulation, Cars that 'Fit', Picking 'les fraises' (strawberries)

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *Vision Spectra*. Please submit an informal 100-word abstract to visionspectra@photonics.com, or use our online submission form www.photonics.com/submitfeature.aspx.

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