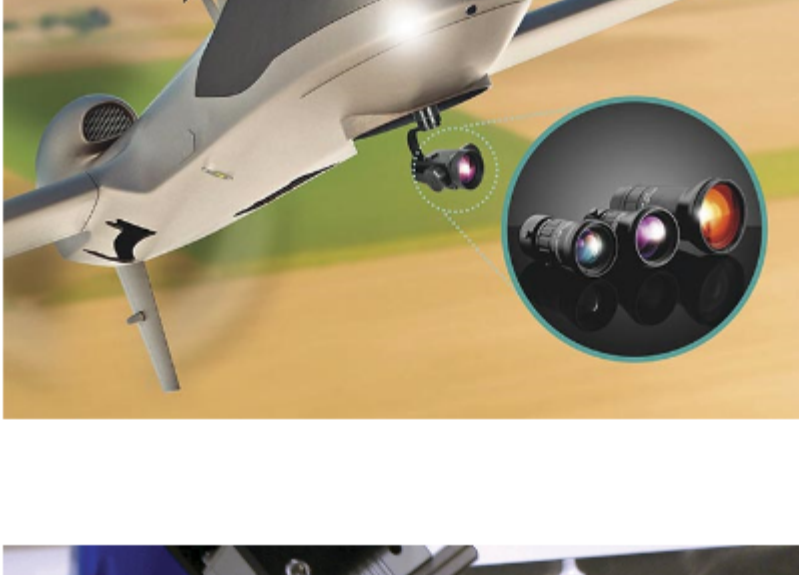




Bimonthly newsletter from Photonics Media featuring the latest advancements in and applications for vision systems – from sensors to software. Manage your Photonics Media membership at [Vision-Spectra.com/subscribe](https://www.photonics.com/subscribe).

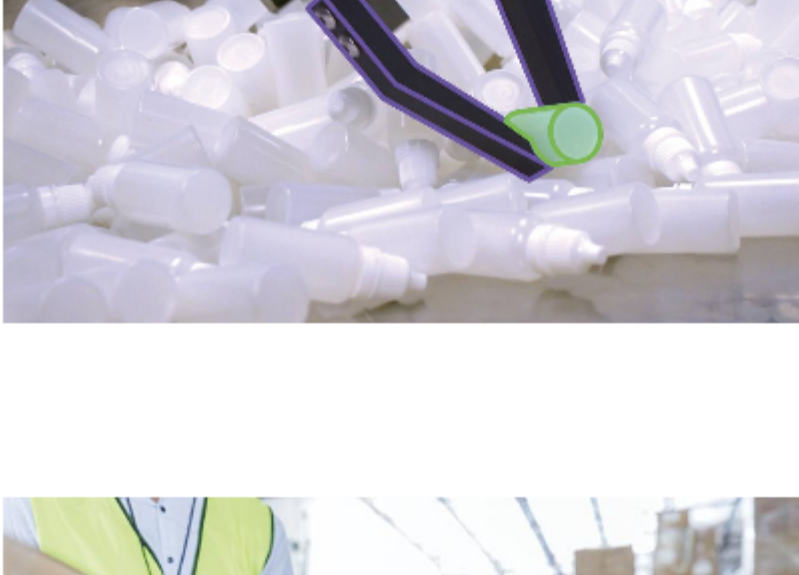
Visual AI Inspection
Defect mitigation without the complexity.

OXIPITAL AI
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Imaging Lenses for UAVs Designed to Withstand Environmental Challenges

Machine vision systems are no longer confined to factory automation. Today, this technology is found in mobile robotics, such as autonomous agriculture equipment, cars, and drones. These applications push high-resolution imaging lenses into environments outside of traditional machine vision settings, which include harsh conditions beyond those that these lenses were originally designed for. [Read Article](#)



Sensor and AI Advancements Boost Bin Picking Performance

Recent advancements in cameras, such as high dynamic range systems, are improving automated bin picking performance. At the same time, software innovations, such as neural net AI trained to recognize objects, are making it possible to automate bin picking of varied shapes, such as agricultural products, or to achieve good bin picking results with less expensive vision systems. [Read Article](#)



AI Raises the Bar for Package Inspection

Package inspection has come a long way, due to traditional machine vision methods that use image capture, processing, and analysis to automate quality control. These methods are crucial for ensuring process quality, improving production efficiency, and maintaining compliance with industry standards. Advancements in AI and machine learning are enhancing the capabilities and accuracy of machine vision systems in packaging inspection, aiding the arduous task of

analyzing visual data. [Read Article](#)

emergent vision technology
10GigE, 25GigE, and 100 GigE Line-Scan Camera Models
Upgrade Your Machine Vision System Today!

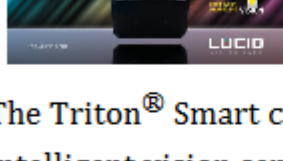
TLZ-9KG
9K 256 TDI Resolution
600KHz Line Rate

LZ-16KG5
16Kx16 Resolution
400KHz Line Rate

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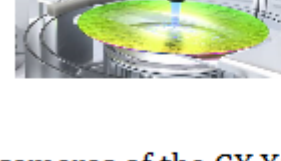
Triton Smart with Sony IMX501 AI Processing

LUCID Vision Labs Inc.

The Triton[®] Smart camera features Sony's IMX501 intelligent vision sensor with AI processing. It is an easy-to-use, cost-effective intelligent vision camera capable of outputting inference results alongside regular 12.3-MP images for every frame. Its on-sensor AI processing reduces data bandwidth, alleviates processing load on the host PC, and minimizes latency.

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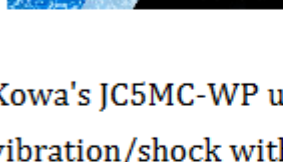
Short Wave Infrared (SWIR) Cameras

Baumer Ltd.

The Baumer SWIR industrial cameras of the CX.XC series are industry-capable GigE vision short-wave infrared cameras. Integrating highly sensitive Sony SenSWIR InGaAs sensors, these cameras feature image acquisition both in the spectrum of visible and non-visible light (400 to 1700 nm). The technology opens up new application potentials with high precision requirements, for example in the food, semiconductor, and pharmaceutical industries.

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Compact Rugged Waterproof Lenses

Kowa American Corp.

Kowa's JC5MC-WP ultracompact lens resists vibration/shock with a fully ruggedized, IP-67 waterproof design. Ideal for vision applications in harsh environments with limited space. One of the smallest and lightest designs available for 5-MP, 2/3" cameras, with a 3.45-µm pixel size rating.

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TarisIR[®] mini 600 - Size Matters!

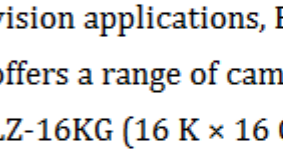
InfraTec GmbH, Infrarotsensorik und

Messtechnik

The TarisIR[®] mini is a compact, high-performance infrared camera, perfect for tight installation spaces. Featuring an uncooled microbolometer detector, high thermal resolution, and real-time data transmission, it's ideal for outdoor monitoring and measurement. It's highly configurable, easy to integrate into systems, and designed for continuous operation.

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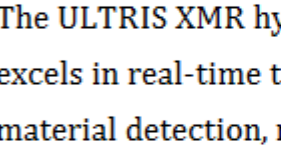
100GigE Line Scan Cameras

Emergent Vision Technologies Inc.

For today's most challenging line scan machine vision applications, Emergent Vision Technologies offers a range of cameras, including the Pinnacle LZ-16KG (16 K x 16 Gpixel GL5016, 400 kHz) and the Pinnacle TLZ-9KG5 (9 K, 256 TDI Gpixel GLT5009BSI, 608 kHz).

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Cubert to Showcase Groundbreaking ULTRIS XMR with Cuvis.ai

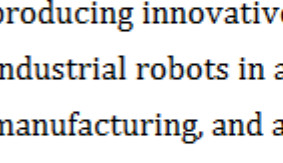
Software

Cubert GmbH

The ULTRIS XMR hyperspectral video camera excels in real-time tracking, chemical analysis, and material detection, making it essential for dynamic industries. Paired with cuvis.ai software, it offers game-changing imaging and data analysis, with applications in manufacturing, environmental monitoring, and medicine.

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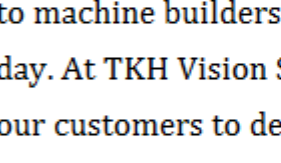
Robotic Guidance Redefined

Recognition Robotics Inc.

For over a decade, Recognition Robotics, an independent American-owned company, has been producing innovative guidance software for industrial robots in automotive, general manufacturing, and aerospace industries. Applications include deracking, rack loading, bin picking, and best fit.

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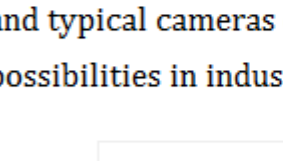
TKH Vision Solutions

Chromasens GmbH

Your vision, our expertise - Machine vision technologies present complex challenges to machine builders and system integrators every day. At TKH Vision Solutions, we collaborate with our customers to develop customized, comprehensive vision solutions that streamline these demanding technologies.

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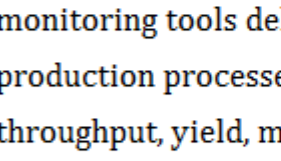
See the Invisible with SWIR & UV Cameras

Balluff Inc.

Balluff's new short-wave infrared (SWIR) and ultraviolet (UV) cameras make the invisible visible. They capture images in light ranges the human eye and typical cameras cannot see, creating new possibilities in industrial applications.

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Oxipital AI Visual AI Solutions

Oxipital AI

Oxipital AI's fully integrated visual AI inspection system provides actionable insights for more resilient, efficient, and sustainable manufacturing. Live monitoring tools deliver actionable insights into production processes, resulting in increased throughput, yield, margin, and reduced waste.

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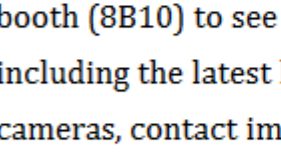
Bandwidth and CPU Benefits for Imaging

Pleora Technologies Inc.

Pleora's latest frame grabber, embedded interface, and sensor networking solutions bring bandwidth, CPU, and connectivity advantages to high-performance machine vision systems and sensor networking solutions for high-performance imaging at Vision Stuttgart.

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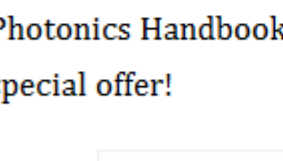
Visit us at Vision Stuttgart

Teledyne DALSA, Machine Vision OEM Components

Visit the Teledyne DALSA booth (8B10) to see its wide range of cameras, including the latest high-performance line scan cameras, contact image sensors, area scan cameras, and smart cameras with advanced connectivity.

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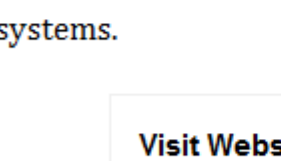
2024 Photonics Buyers' Guide

Photonics Media

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Open eVision: Embedded Performance

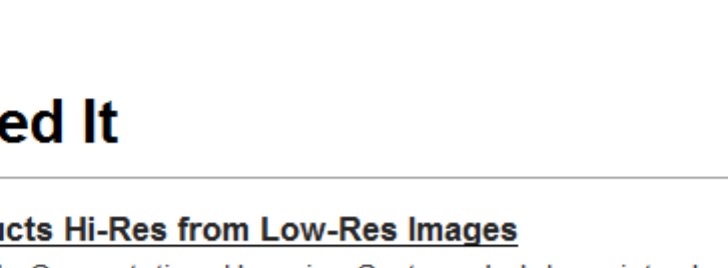
Euresys SA

Euresys responds to the trend for more decentralized device-based expertise and processing by offering their recognized Open eVision image processing libraries for embedded systems.

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In Case You Missed It

Neural Field Network Reconstructs Hi-Res from Low-Res Images

Researchers from Boston University's Computational Imaging Systems Lab have introduced a local conditional neural field (LCNF) network. Researching neural phase retrieval, the LCNF network leverages advanced deep learning techniques to reconstruct high-resolution phase information from low-resolution measurements. [Read Article](#)

Imaging System Mimics Compound Eye for Greater Sensitivity in Robotic Vision

A research team from the Center of Engineering for the Hong Kong University of Science and Technology has developed a novel artificial compound eye system that promises greater cost-efficiency and sensitivity than that of existing market products in small areas. The team expects the device to have applications in robotic vision where it will improve capabilities in navigation, perception, and decision-making. [Read Article](#)

FANUC America, SME Establish \$1M Manufacturing Scholarship Fund

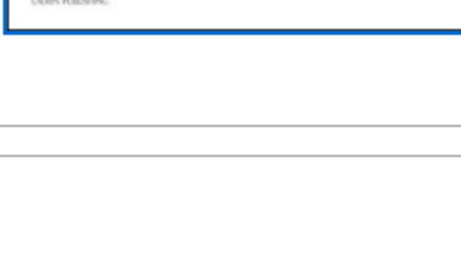
FANUC America, an industrial automation and robotics company, has established the FANUC Automation Endowed Scholarship Fund in collaboration with the SME Education Foundation, the philanthropic arm of manufacturing nonprofit SME. Worth a minimum of \$1 million, the fund is the largest automation scholarship in SME Education Foundation history, according to SME. [Read Article](#)

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