



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](https://www.photonics.com/subscribe).



The Pandemic Highlights Vision-Based Inspection in the Pharmaceutical Industry

By nature of what is at stake, pharmaceutical and medical industries have developed much stricter standards compared to most other sectors. From day one, quality control and track-and-trace processes have been paramount for pharmaceuticals, and the COVID-19 pandemic has underscored the importance of vaccine quality as a global health issue.



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Polarization Cameras Get Ready for Prime Time

Polarization can remove glare in vision systems and improve imaging through transparent materials such as glass. This capability is beneficial for surface inspection of film thickness or tilt angle. It is also critical for spotting contaminants in products, when contaminants closely resemble the contents of plastic bins or impurities in pharmaceuticals.



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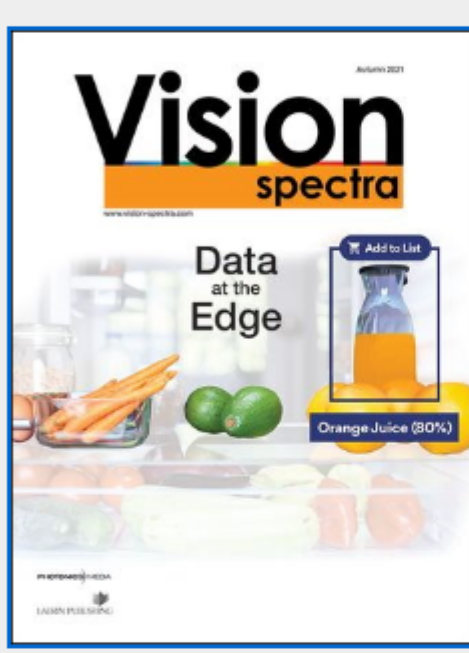
Ruggedization Future-Proofs Lens Designs

As machine vision applications have expanded rapidly beyond the controlled environments of the factory, so too has the need for ruggedized lens designs that are able to meet more diverse and nuanced requirements. This is not to say that no demand remains in factory automation for shock- and high-vibration-resistant lenses. But solutions for industrialized imaging applications have been implemented for years now, and many of these techniques can be applied to less controlled environments, such as those navigated by autonomous vehicles and drones. Indeed, the volume of vision applications for factory automation could soon pale in comparison to uses outside the factory, while demand for autonomous services and systems continues to evolve and even accelerate, in no small part due to the current pandemic.



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About Vision Spectra



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



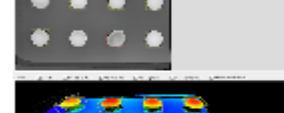
[Modular 3D Sensor with GenICam 3D](#)

AT - Automation Technology GmbH

AT – Automation Technology revolutionized the 3D sensor industry with its modular 3D compact sensor (MCS) which is based on a modular system of sensor, laser, and link modules and recently launched the new cx4090HS 3D sensor module which supplements the MCS series.

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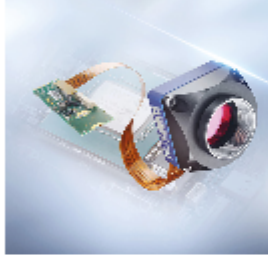
[Euresys' Open eVision Libraries](#)

Euresys SA

When it comes to the pharma industry, Euresys Open eVision libraries offer essential functionalities compatible with the industry stringent accuracy and performance requirements.

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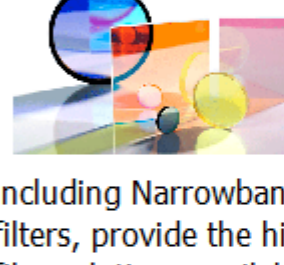
[PCIe Camera Modules for Embedded Vision](#)

MATRIX VISION GmbH

The mvBlueNAOS camera module series from MATRIX VISION offers maximum possible transfer rates by using the platform-independent PCI Express interface. With this interface image data can be transferred directly to the memory. The first models come equipped with up to 24.6 MPixel sensors from Sony.

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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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[Theia's Ultra-Wide No Distortion Lenses](#)

Theia Technologies

Lenses made with Theia's patented Linear Optical Technology® are designed to cover wide areas without distortion. This innovative technology offers an ultra-wide field of view while using all optical distortion correction to remove barrel distortion without using software...

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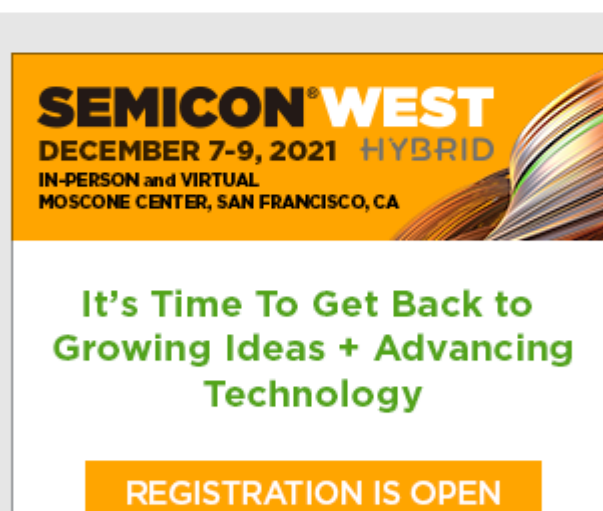
[Baumer AX. AI Ready Smart Camera with NVIDIA Jetson Modules](#)

Baumer Optronic GmbH

Freely programmable smart cameras for powerful AI applications. Baumer AX Smart Camera uses Sony global shutter sensors, and NVIDIA Jetson AI modules. Up to 5mp and 77 fps.

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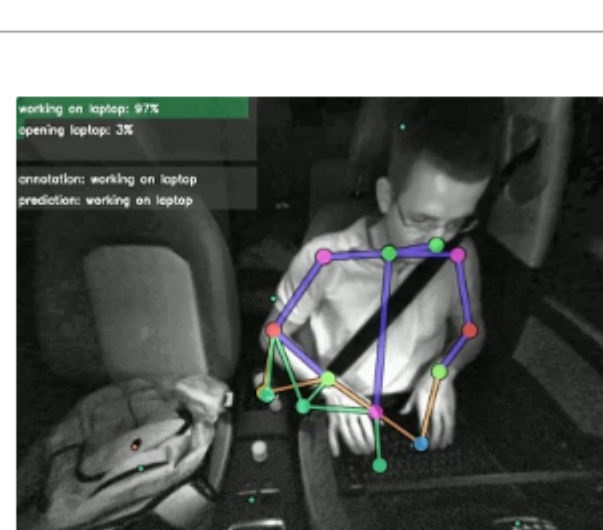
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:: More Vision News

Vehicle Occupant Monitoring Tech Captures Free-Space Gestures in 3D

Engineers at the Fraunhofer Institute of Optronics, System Technologies and Image Exploitation (IOSB) have developed occupant monitoring technology for autonomous and assisted driving applications. The system, the scientists said, is the first to use image data to draw conclusions about occupant activity.



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AI Tool Uses Aerial Imaging to Scan Structures for Wildfire Damage

A system developed by researchers from Stanford University and California Polytechnic State University called DamageMap uses aerial photography and artificial intelligence to assess wildfire damage to buildings. Rather than comparing before and after photos, the system is able to use machine learning to consider only post-fire images.

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Army Tests Lidar Geo-Mapping at Fort Leonard Wood

Representatives from the National Geospatial-Intelligence Agency research team in St. Louis met with U.S. Army Training and Doctrine Command Proponent Office Geospatial (TPO-GEO) service members and civilians during Army Engineer Regimental Week to demonstrate lidar survey data collection capabilities.

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:: Next Issue:

Features

Thermoelectric Cooling, AI on the Edge, Intelligent Lighting, and more.

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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