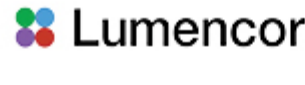


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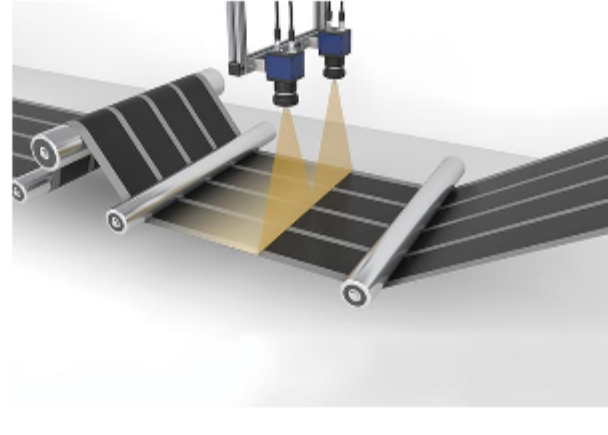
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## Advancing Insights with the Power of Light

### Vision Ensures Lithium-Ion Batteries Make the Grade

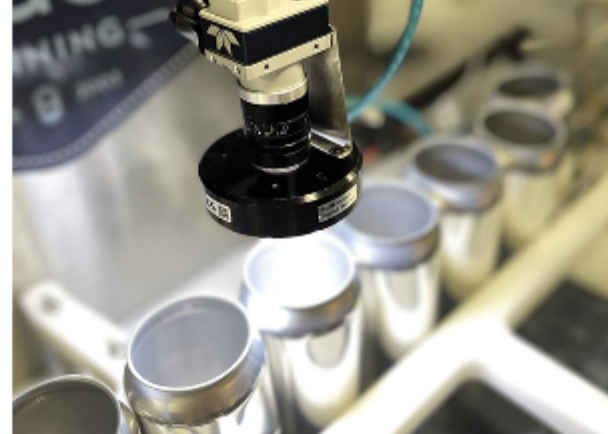
The international consulting firm McKinsey forecasts that the entire process chain for producing lithium-ion batteries, from extracting the materials to recycling, will reach more than \$400 billion by 2030. Roughly 30% of the value created is attributable to cell production. The process of battery cell production is divided into three steps: electrode production, cell assembly, and formation and aging. Maximum precision is required for all three steps in the process, which means there is a high potential for error. Machine vision can help mitigate such errors.



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### Detecting Dents and Damage in Aluminum Cans Using AI Computer Vision

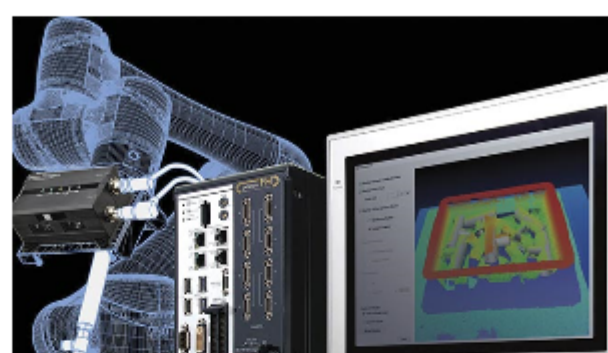
Predictive artificial intelligence (AI) and deep learning are rapidly undergoing adoption for computer vision tasks in automation and manufacturing. Applications that were previously impossible with traditional computer vision tools can now be developed using AI. For many applications, AI offers manufacturers the tools to solve challenging problems without the need for a deep background in vision systems programming.



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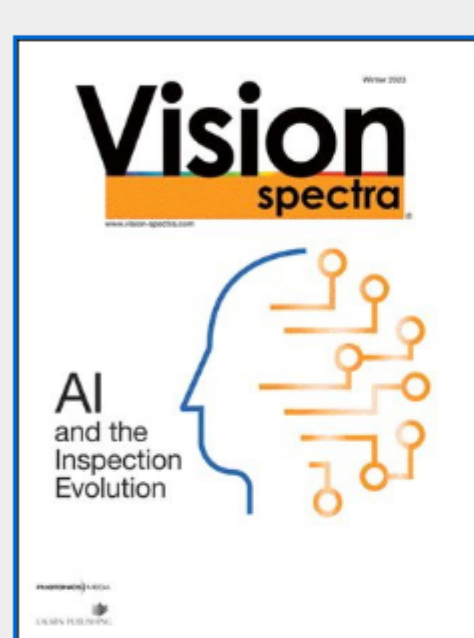
### Vision-Powered Cobots Improve Speed and Quality of Inspections

Cobots assisted by machine vision with AI can aid manufacturers with automating assembly and inspection processes, and offer numerous advantages in industries from automotive and packaging to food electronics and pharmaceuticals. They perform additional functions in manufacturing, including pick and place and assembling and disassembling products, and work with machine safety systems by automatically detecting human workers in their vicinity and reducing their speed and force accordingly to prevent injuries.



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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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### Robotic Guidance Redefined

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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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### High Intensity Flat Diffuse Lights

**Advanced illumination (Ai)**

Advanced illumination is announcing the release of their new FD2 High Intensity

Back-lit Flat Diffuse Lights, an improved take on Ai's popular FD series. The FD2 Series provides roughly twice the brightness, improved structural rigidity, and better thermal efficiency over their predecessor.

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### MVTec HALCON 23.11. Now Available

**MVTec Software GmbH**

MVTec launched version 23.11 of the standard machine vision software HALCON on November 14, 2023. With the new version, it is possible to operate MVTec HALCON fully digitally in the cloud for the first time. The new version also contains numerous new features and improvements to existing methods.

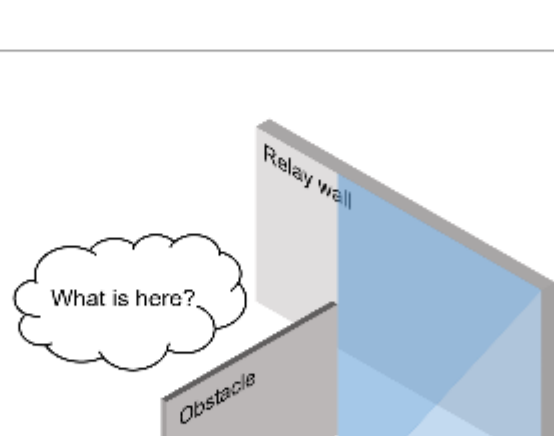
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## :: More Vision News

### NLOS Imaging in the NIR, MIR Could Boost Autonomous Navigation

Non-line-of-sight systems provide the capability to see around corners and even through walls, making them valuable tools for applications ranging from endoscopy to autonomous vehicles and robotic vision. Most NLOS imaging is performed in the visible bands, due to the limited spectral sensitivity of the light sensors used. Extending NLOS imaging capabilities to the near- and mid-infrared wavelengths could expand the application spaces for this emerging technology. Using a superconducting nanowire single-photon detector as the light-sensing element, researchers from Tianjin University demonstrated NLOS imaging at two infrared wavelengths, 1560 nm and 1997 nm.



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### Noise-Resistant Method Enables Edge Detection Without Prior Imaging

Edge detection, the process of outlining objects in a scene by identifying areas where changes in color or intensity signal boundaries between objects, is vital in computer vision applications such as object recognition, image segmentation, and feature extraction. In visually noisy scenes, conventional methods aren't effective. To tackle this challenge, a joint research team led by the Hefei University of Technology developed a noise-resistant method for detecting object edges without prior imaging.

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### PPMA Re-Brands, Becomes Automate UK

The Processing and Packaging Machinery Association (PPMA) Group of Associations is re-branding and changing its name to Automate UK. The association said it made the change in a bid to better represent the needs of its membership and its end-user customers in the manufacturing landscape.

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### Features

3D Imaging, Warehouse/Logistics, Hyperspectral Imaging, and Sub-pixel High Dynamic Range Imaging

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