

# Vision spectra

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### 3D Laser Triangulation: Bringing Depth to Machine Vision



3D vision is going mainstream — and that's a good thing. Advances in technology and reduced costs now make 3D vision a technology that can be applied to all sorts of applications and industries, including semiconductor and electronics, EV battery manufacturing, automotive manufacturing, food production, and pharmaceutical packaging. You'll find 3D sensors and profilers on production floors, in automation, robotic guidance, and quality control.

In the past, 3D systems were too slow to keep up with production, too expensive, too hard to configure, and too difficult to maintain. Instead, system designers have relied on line (1D) and area (2D) scan imaging to perform inspections in a complicated arrangement of cameras and lighting, and extrapolated depth information with software.

Parallel advancements in sensor quality and speed, embedded vision, FPGAs, lasers, optics, and smart systems have made 3D imaging a much more viable option today. 3D imaging technologies now, are low-cost, reliable, repeatable, easy to implement, and proven in a wide variety of demanding applications. And while 1D and 2D are still in wide use, 3D now presents a solid alternative in nearly every instance.

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