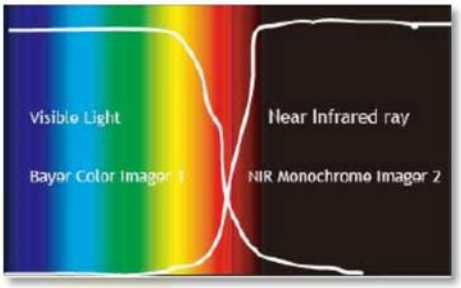
Hyperspectral Solutions

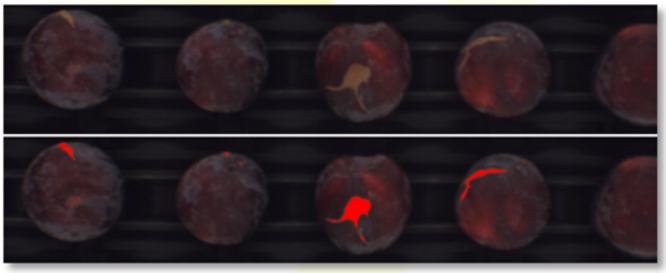


In certain machine vision applications, the ability to see in-side an object is just as important as the ability to capture its outward appearance. For years, imaging professionals have struggled to combine imaging in both regions – but the solutions were either too costly or too difficult to de-ploy and maintain.

Multi-spectral imaging solution brings a new, essential dimension to a number of vision inspection applications. The visible light channel captures the red, green and blue bands of conventional imaging – or those visible to the human eye. The NIR channel, on the other hand, “sees” below the surface of organic and other materials to detect imperfections the human eye cannot see.

Many imaging applications require only monochrome cam-eras that work in the visible spectrum, or between 400 and 700 nanometers (nm). But certain applications require other parts of the spectrum to capture critical data. The quality of food, currency, and metals, for example, de-pends not only on their outward appearance – but also on the condition of tissue that may be below the surface or simply invisible to the human eye. Cameras that capture non-visible signals below 400 nm and above 700 nm are able to enhance details and see below the surface. The result is more thorough vision inspection, better quality verification – and, ultimately, higher quality products.

Hyperspectral applications



Hyperspectral vision is ideally-suited for a large variety of applications, including:

- Inspection and sorting of food, such as fruit, vegetables, nuts, meat, and grains – including the ability to check the contents under printed packages

- Print inspection of packaging, such as cosmetics and food packaging

- Surface inspection of textiles and other flat products

- Print board inspection

- Electronics inspection

- Security print inspections including currency, checks, airline tickets, lottery tickets, and passports

- Advanced surface property and quality inspection of wood, metal, and other materials

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