



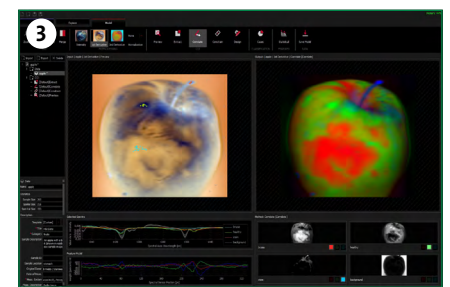
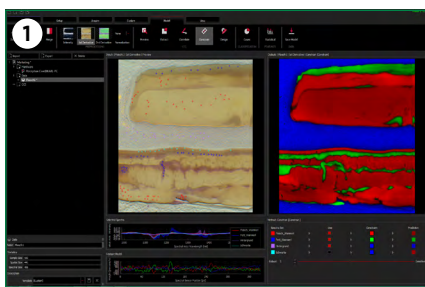
► Non-destructive, molecular property inspection in-line with industrial production processes – Hyperspectral imaging and Chemical Colour Imaging

The human eye and colour cameras can see the colour of visible light in three bands (red/green/blue), but hyperspectral cameras far surpass this, generating image data in more than 100 narrow-band wavelengths. "Spectral fingerprints" of materials are extracted, providing much more detail within each pixel of the image data, which can be recorded and compared.

Chemical Colour Imaging visualises the chemical properties of an object by creating a legend of different colours for intuitive identification. Once the hyperspectral data is colour coded and prepared for image processing, it's ready to be inspected by machine vision software.

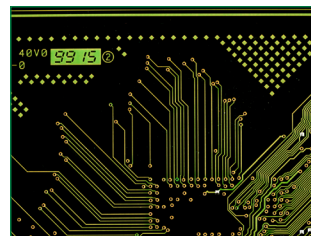
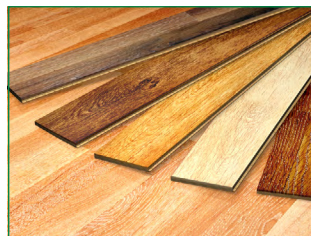
It helps to identify:

- Differences in similar looking materials e.g. sliced meat (fig. 1)
- Identical material properties with objects that vary in appearance e.g. plastics (fig. 2)
- Transformation processes of identical objects e.g. apples (fig. 3)



MARKETS

FOOD INDUSTRY ELECTRONICS AUTOMOTIVE MEDICAL INDUSTRY PHARMACEUTICAL INDUSTRY
LIFE SCIENCES RECYCLING DOCUMENT INSPECTION WOOD INDUSTRY MINING



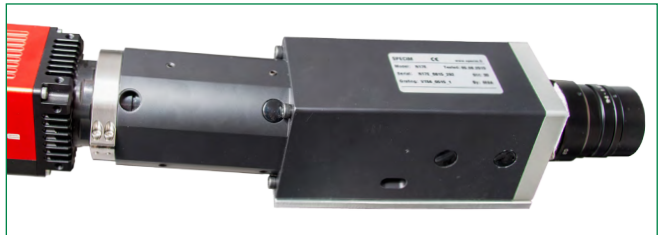


► System setup

The CVS HyperInspect systems are available in a modular design or as industrial, "plug and play", systems.

Hardware (for wavelength areas from 400nm to 1000nm and from 900nm to 1700nm)

- **Modular design** – the cameras and the spectrograph can be configured individually: modular and customised systems including camera, spectrograph and lens
- **Compact spectral camera FX10 / FX17** for industrial use: Pre-calibrated hyperspectral line scan cameras enable high-precision measurements of the entire spectrum for each pixel. Thanks to the internal calibration, each system delivers identical results.
- Camera and spectrograph in an IP-rated enclosure
- Optics
- Illumination
- PC with standard interfaces (GigE Vision or CameraLink)



Software

By using the "Perception Studio" software spectroscopy level knowledge is no longer required. The innovative software bridges the gap on applications that could not have been solved by conventional colour imaging, without the use of the experts.

- A modular concept with the graphical user interface of the "Perception Studio" software as a core component for the visualisation and analysis of hyperspectral data
- Perception Studio is perfectly suited to Common Vision Blox (STEMMER IMAGING) and Sherlock (Teledyne DALSA) and is also compatible with VisionPro, Halcon, NI Vision, MIL and Coake.

Attend one of our European Imaging Academy training opportunities to learn more about hyperspectral imaging:

