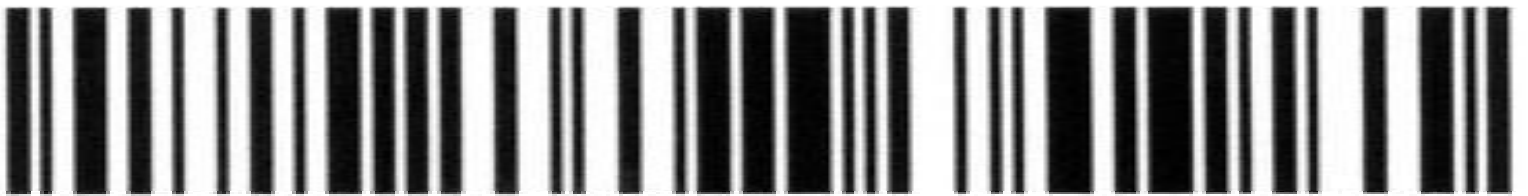


Vision Inspection System for Industry

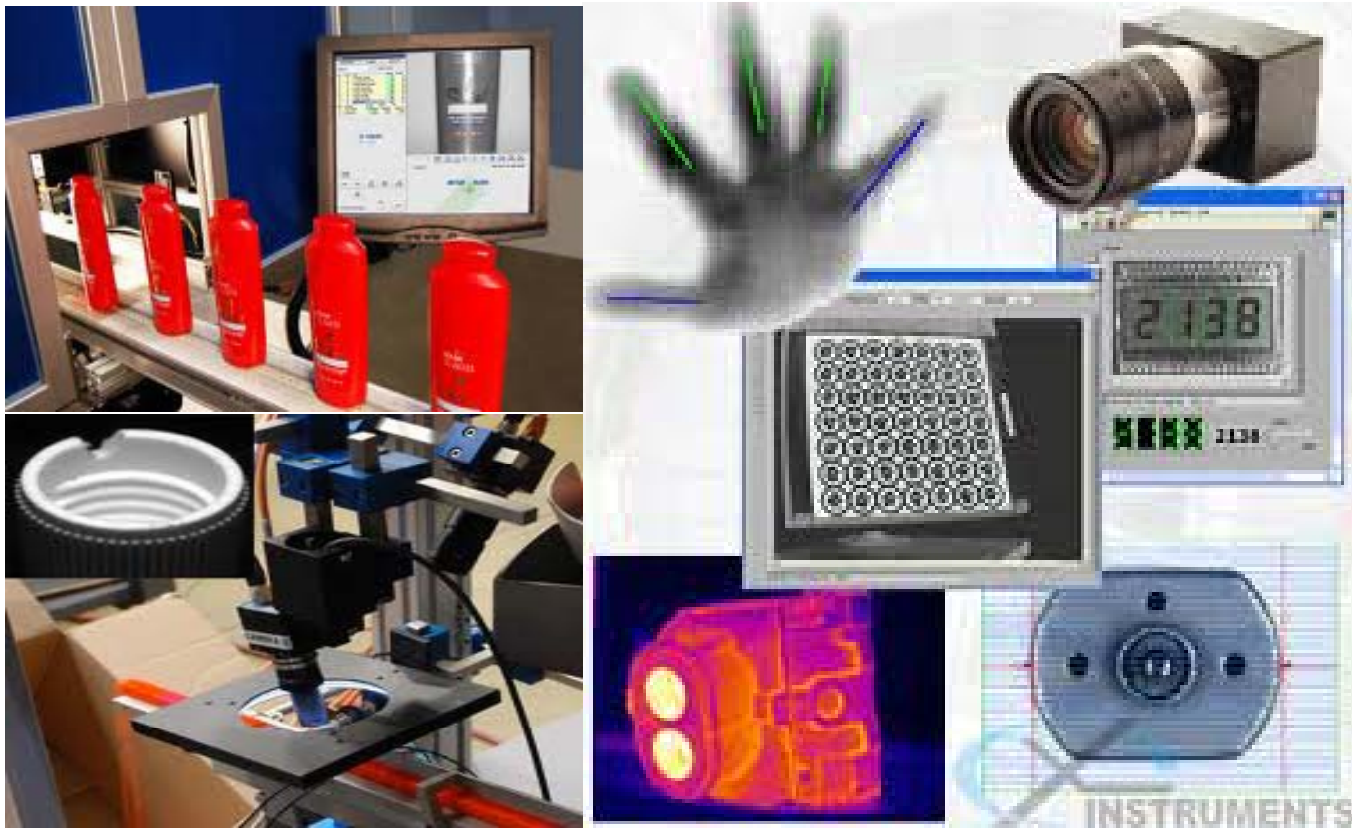


The worst and the most costly kind of waste is “*invisible thing*”

JTK Innovative Technology Co., Ltd.

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Website : www.jtkgroup.yolasite.com

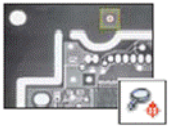
Capabilities



Solutions for a wide variety of industries

- >> *Assembly*
- >> *Electronic*
- >> *Consumer*
- >> *Automotive*
- >> *Food & Beverage*
- >> *Medical*
- >> *Packaging*
- >> *Pharmaceutical*
- >> *Paper*
- >> *Robotics*
- >> *Plastics*
- >> *Telecommunications*

Image processing & Analysis Function



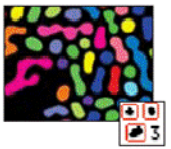
Pattern and Geometric Matching

Learn and locate objects and patterns in your images. The National Instruments patented matching algorithms locate patterns fast with very high accuracy.



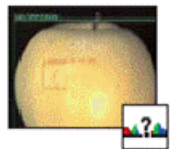
Optical Character Recognition/Verification

NI OCR functions use a trainable OCR algorithm specifically designed to identify and verify all types of fonts, characters, and symbols despite poor and inconsistent image quality.



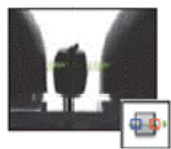
Particle Analysis

Use particle analysis to detect connected regions or groupings of pixels in an image and make selected measurements of those regions. Choose from more than 80 unique measurements that return data in both real-world and pixel values.



Color Inspection

Color matching quantifies which colors and how much of each color exist in a region of an image and uses this information to check if another image contains the same colors in the same ratio.



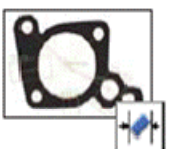
Edge Detection

Use the edge detection tools to identify and locate discontinuities in the pixel intensities of an image. Find edges to align, measure, or detect features in the image.



Object Classification

Classification is a tool for identifying an unknown object by comparing its significant features to a set of features that represent known samples.



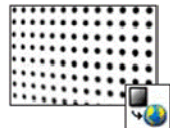
Gauging

Use dimensional measurement or gauging tools to obtain quantifiable, critical distance measurements such as distances, angles, areas, line fits, circular fits, and counts.



Bar Code Reader and Grader

Read 1D bar codes as well as 2D codes like Data Matrix and PDF 417. You can decipher codes applied through ink jets, thermal transfer, laser etching, or dot peen.



Spatial Calibration

Using spatial calibration functions, you can calibrate your image to take accurate, real-world measurements from images, regardless of camera perspective or lens distortion.

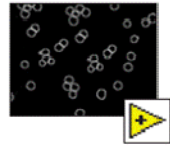
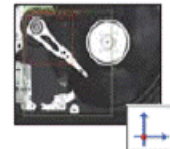


Image Arithmetic and Logic Functions

Operators perform basic arithmetic and logical operations on images. Use operators to add, subtract, multiply, and divide an image with other images or constants.



Coordinate Systems

Set up coordinate systems to ensure that all your measurements move with the object within the field of view.

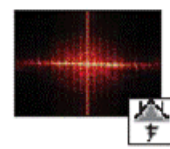


Image Filters and Frequency Analysis

Frequency filters, such as the fast Fourier transform (FFT), alter pixel values with respect to the periodicity and spatial distribution of the variations in light intensity in the image.



Image Segmentation

NI vision software comes with several options to segment and partition images into related components. Segmentation is an important part of many imaging applications that need to extract certain features or objects in order to process them further.

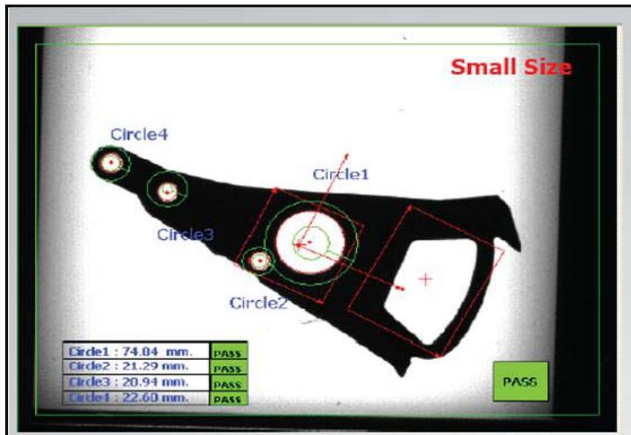


Golden Template Comparison

Find defects in an image by comparing a perfect (golden) sample to all subsequent samples. Golden template comparison detects surface defects, label misprints, and overall quality issues.

Applications

Measurement



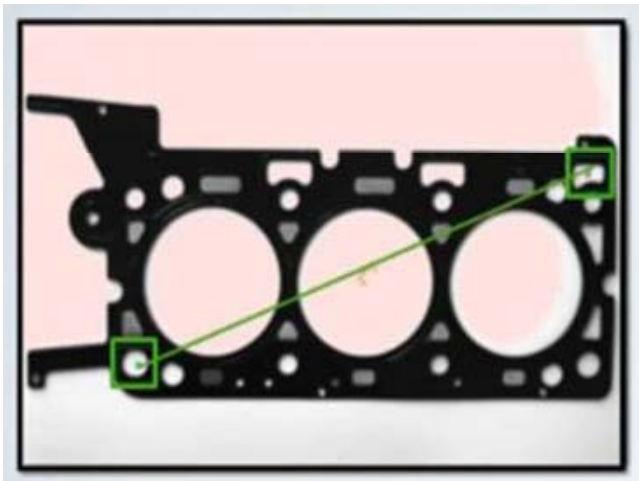
Check to specified tolerance

Counting



Missing pieces

Location



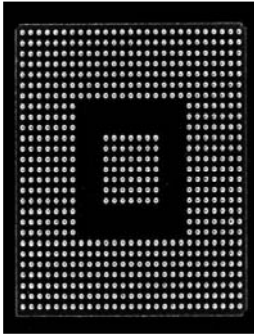
Locate position and orientation, check to specified tolerance

Decoding

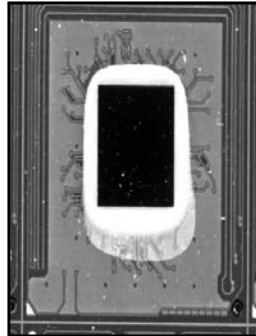


Record information as historical data

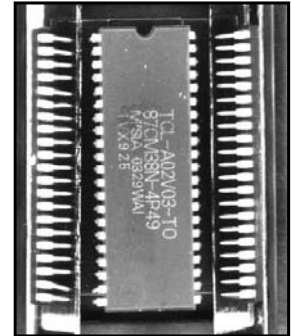
Inspection Solutions



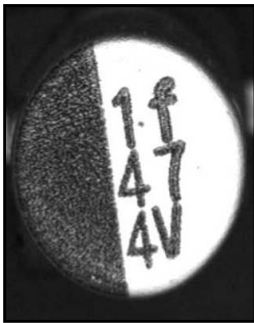
BGA Package



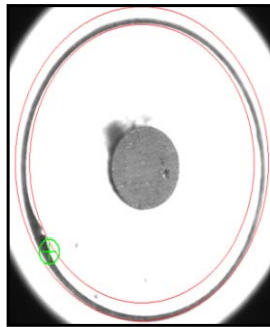
Epoxy coverage



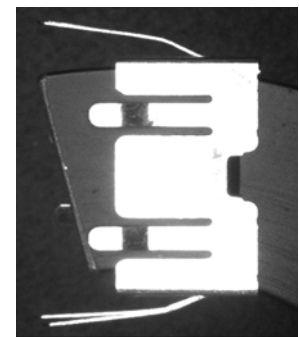
Lead & Mark



Printing (capacitor)



Battery Casing



Connector



Cell Phone Keypad



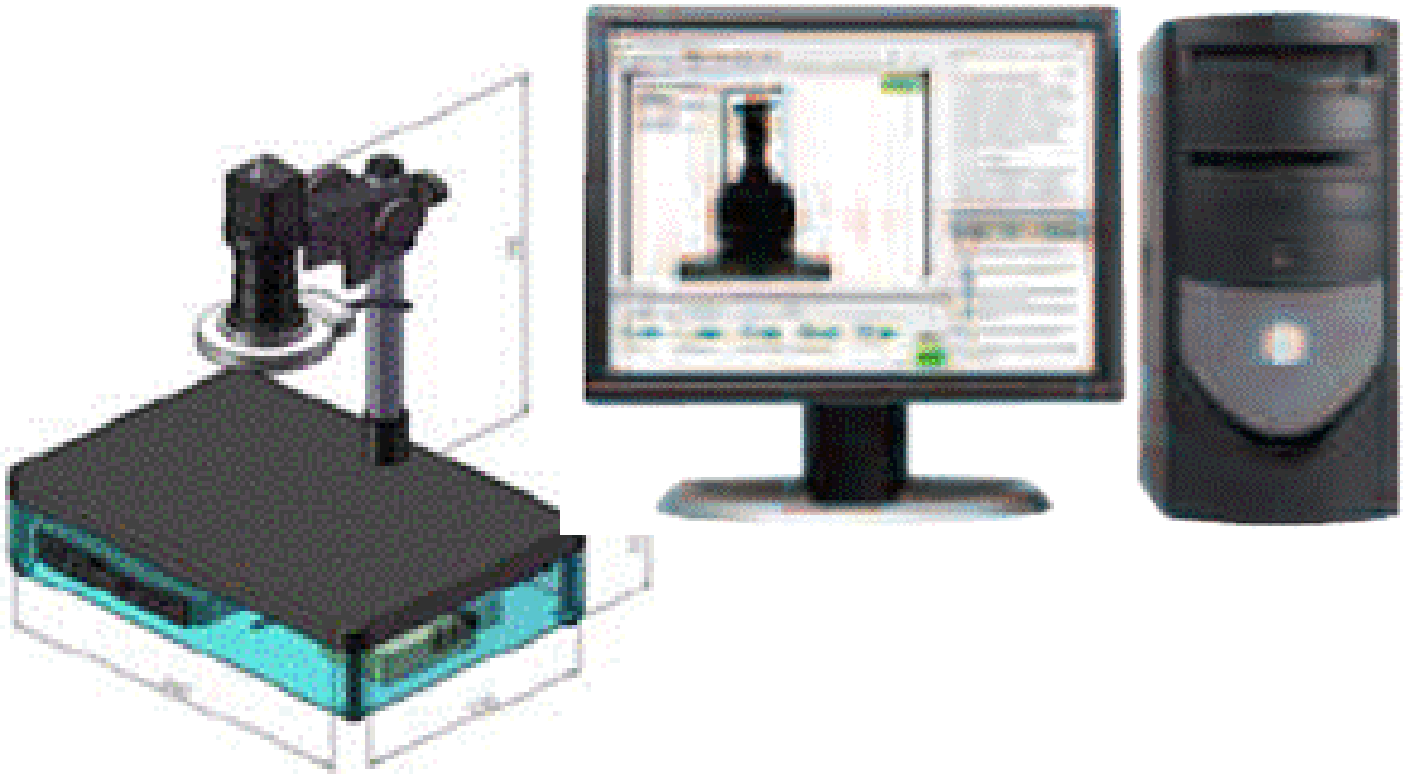
Blister Pack



Sticker

etc...

Vision Compact System



Product consists of

- Embedded high-performance CPU
- GigE camera inputs, High speed USB CCD
- Macro zoom Lens and light source bundles
- Choose the software for your application