

INSPECT™ R1

Automated Visual Inspection Software



Applications

- Challenging visual inspection tasks beyond the capacity of traditional machine vision
- Inspecting surfaces for dings, dents, scratches, finish non-uniformity, and other cosmetic defects
- From lab to production

Benefits

- Build and implement a tailored solution for unique evaluation needs
- Leverages the high resolution, high-sensitivity images of ProMetric(r) imaging systems for inspection applications

Key Features

- Simultaneously inspect multiple diverse features
- Highly programmable software with sophisticated image analysis functions

Powerful toolkit for advanced machine vision surface inspection solutions

The INSPECT™ R1 platform is a flexible set of tools that address a wide variety of visual inspection challenges using user-defined workflows. Combined with the Radiant Vision Systems ProMetric® high-resolution, low-noise imaging systems, the programmable INSPECT software detects subtle, low-contrast defects on surfaces such as metal or glass and ensures finish uniformity.

Human visual perception determines acceptable tolerances for cosmetic defects, but human inspectors are costly and subject to fatigue and inconsistency. Traditional machine vision systems can automate inspection, but fall short on sensitivity to identify subtle defects and determine severity. The INSPECT R1 solution leverages imaging systems with the visual acuity of human perception while offering the advantages of automation and repeatability.

With INSPECT R1 tools, users can apply the power of scientific-grade imaging systems to address uniquely challenging visual inspection tasks using in-house resources and with full control of the resulting intellectual property (IP). The INSPECT R1 workflow engine supports rapid prototyping that readily transitions to production line applications.

With a ProMetric Y-Series imaging system and INSPECT R1, multiple surface or device attributes can be assessed in the same image, both intentional (e.g., logos and icons) and not (e.g., dings, dents, and scratches, or finish non-uniformity) to ensure quality.



INSPECT R1 Advantages

- Radiant imaging systems provide higher-resolution, higher-sensitivity images than traditional machine vision cameras.
- Better image quality allows more detailed and precise data for identifying and classifying defects, with consistency and repeatability.
- Flexible software enables user-created solutions to visual inspection challenges, in labs or production.

Specifications*

INSPECT R1 Software

A specialized tool for automated machine vision solution development, INSPECT R1 provides flexible framework with a powerful set of image pre-processing and analysis tools for visual inspection applications.

Image Pre-Processing Tools

- Feature Find Tool
- Alignment Tool
- Region Tool
- Filter Tool
- Edge Tool

Image Analysis Tools

- Histogram Tool
- Blob Tool
- Template Tool

Communications

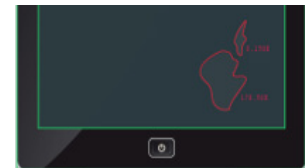
Two-way data communications function with factory automation subsystems. Protocols supported:

- Digital TCP/IP
- Byte array / RS-232
- Byte array / UDP

An Image Output tool allows compressed images to be stored, with or without graphic overlays.

Workflow Editor

Supports creation of custom sequences of operations that can be stored and reused.



Finish non-uniformity



Scratches, dings, and dents



Logos and icons

INSPECT™ R1 Software System Requirements

- ProMetric® Y-Series imaging system (available in 2MP, 16MP, 29MP, and 43MP)*
- Windows® 10, 64 bit
- 16-32 GB RAM
- Additional system requirements vary by camera. See hardware specification sheet.

* Minimum of one INSPECT license required with purchase of each ProMetric camera

* Specifications subject to change without notice.