

ATS SOLUTIONS

 **ATS SmartVision™ M+ Inspection System**



Partnering machine efficiency with human discernment

 **ATS**™
A U T O M A T I O N

ATS SmartVision™ M+ Inspection System

Description

For those inspection needs that are not completely met with machine vision, SmartVision M+ combines a person's innate ability to process and interpret visual information and patterns with a vision system's data management, efficiency and reliability capabilities. Images acquired by the SmartVision M+ are date and time stamped and coded with the inspector's unique ID. The images can be:

- Viewed by an inspector for acceptance decisions and then archived for a variety of purposes including training, traceability, data analysis, performance management, and machine learning.
- Transmitted to inspectors located remotely, thus freeing up valuable production floor space and removing distractions.
- Evaluated by the machine vision for routine inspections and forwarded to inspectors for more complex analysis.
- Sorted and organized for distribution to multiple inspectors for blind or unblind confirmation decisions, increased inspection times, or asynchronous inspections to allow for the differences in human inspection performance.
- Enhanced with lighting and magnification and multiple views in order to make the inspector's job easier.

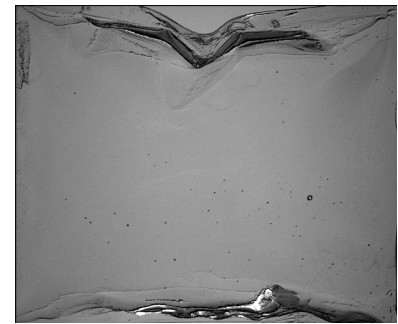
Advantages

- **Quality traceability at the part level**
- **Concurrent verification of machine inspection equivalency and qualification of machine learning**
- **Image archive of acceptable and unacceptable product quality for troubleshooting, training, trending and analysis**
- **Remotely located inspection stations where production floor space is at a premium**
- **Enhanced product images for pass/fail decision confidence**

Ultimately the intent is to 'teach' SmartVision M+ to perform the inspection by running machine learning algorithms on the stored images, comparing machine decisions to inspector decisions, and building confidence in the system's ability to match or exceed the reliability and accuracy of human inspections.

System Specifications

1. Image Acquisition: Captures image(s) from inspection targets
2. Processing Computer: Stores, enhances, and distributes images to the display system
3. Multiple Inspection Display System: Organizes and arranges displays of the acquired images to the operators
4. Operator Inspectors: Operators can be located at the line, in a remote control room, or potentially at a separate facility depending upon buffer size/processing time available
5. Database System: Stores and archives all of the images categorized by failure mode on the server for future reference which could lead to automating with machine vision in the future



Example of vision system enhanced product image (glass)

Pass/ Fail statistics with reason code

Date: 2016-02-15
Time: 1:00 pm CST
Operator ID: 12345
Total Inspection/Rejected: 14,575/274

- Fail Type 1
- Fail Type 2
- Fail Type 3

Pass

Operator training & certification

Test sample Set: 5 items, 4 passed (green checkmarks), 1 failed (red X).

Operator response: 5 items, 5 passed (green checkmarks).

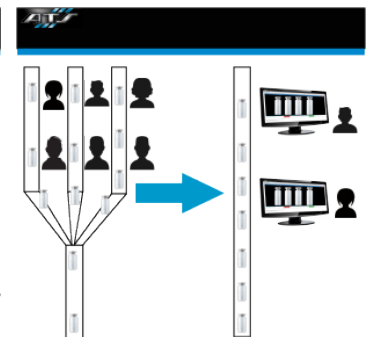
Different lighting & images presented

Side View (Light): **Pass**

Side View (Dark): **ATS M+**

Top View: **Fail**

Save floor space & inspectors



Please contact ATS directly to discuss your project in more detail

Telephone: 519-653-6500

E-mail: info@atsautomation.com or visit our web site at: www.atsautomation.com

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