

Stop Manual Inspection Errors.

Automate PCB Assembly with Southern Machinery AOI.

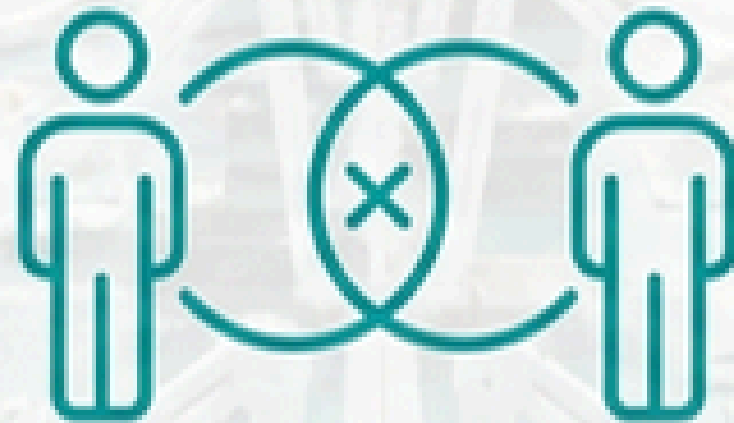


Your Best Inspector is Still Human.



Visual fatigue is inevitable

Even the most skilled QC staff experience fatigue, leading to inconsistent standards.



Standards vary from person to person, shift to shift.

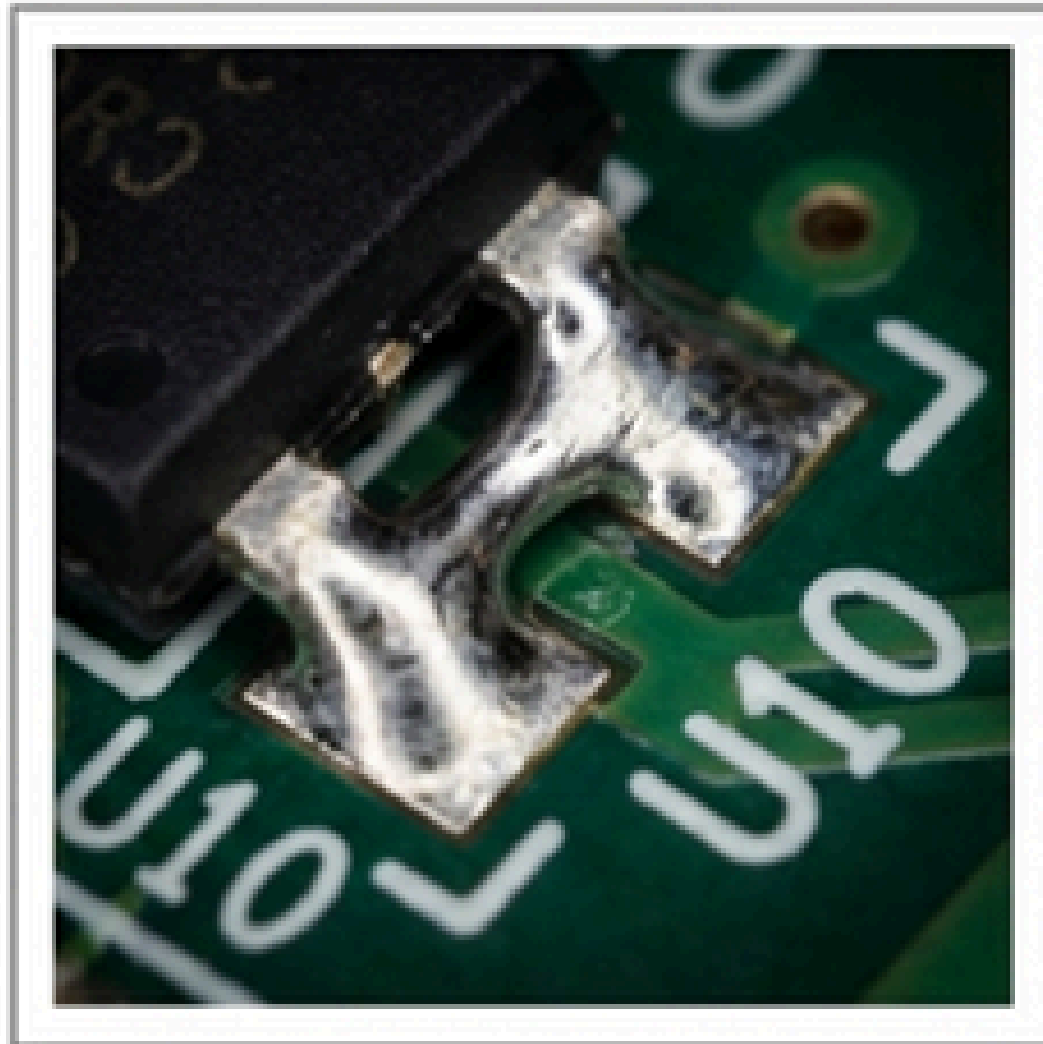
High worker mobility and frequent training needs make true standardization impossible.



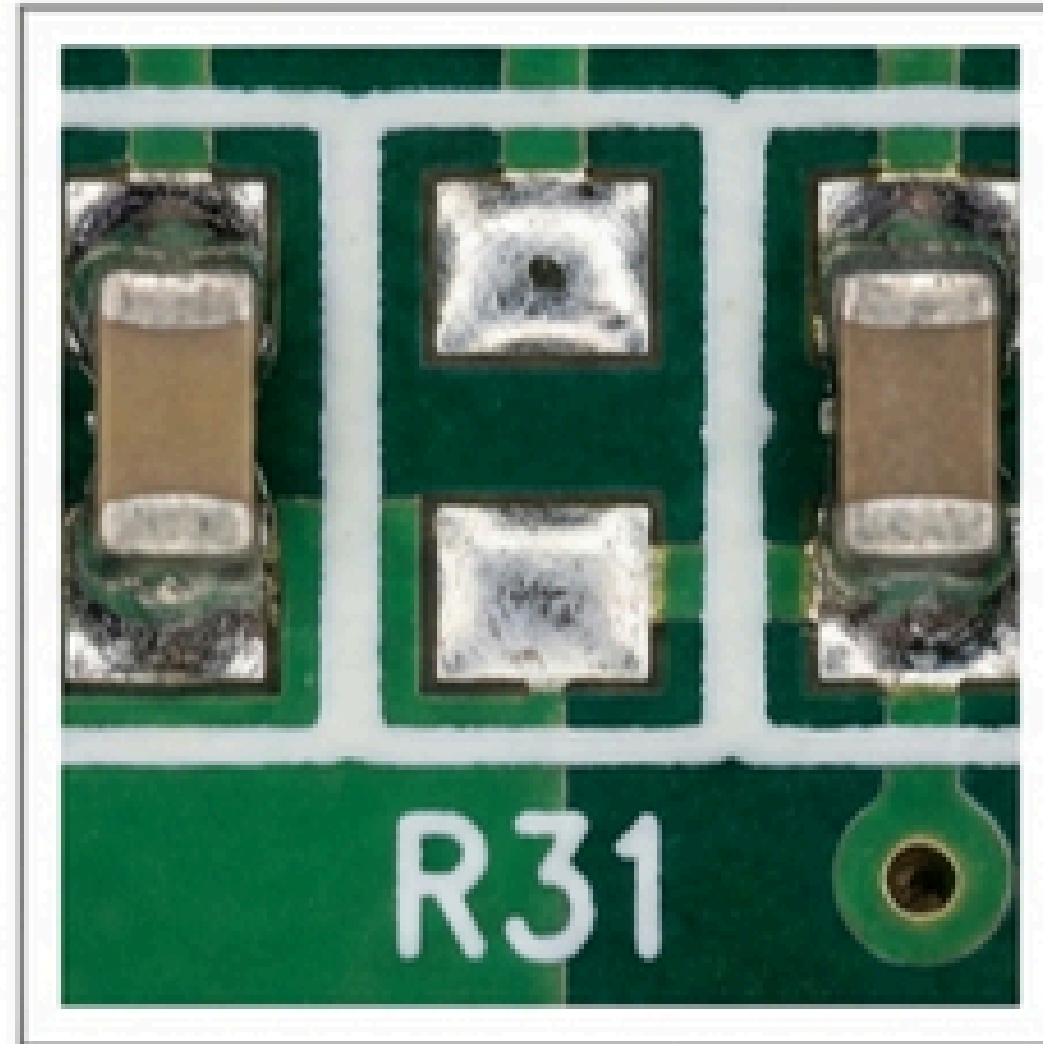
The smallest defects are invisible to the naked eye.

Microscopic flaws that cause field failures easily escape even the most diligent human inspection.

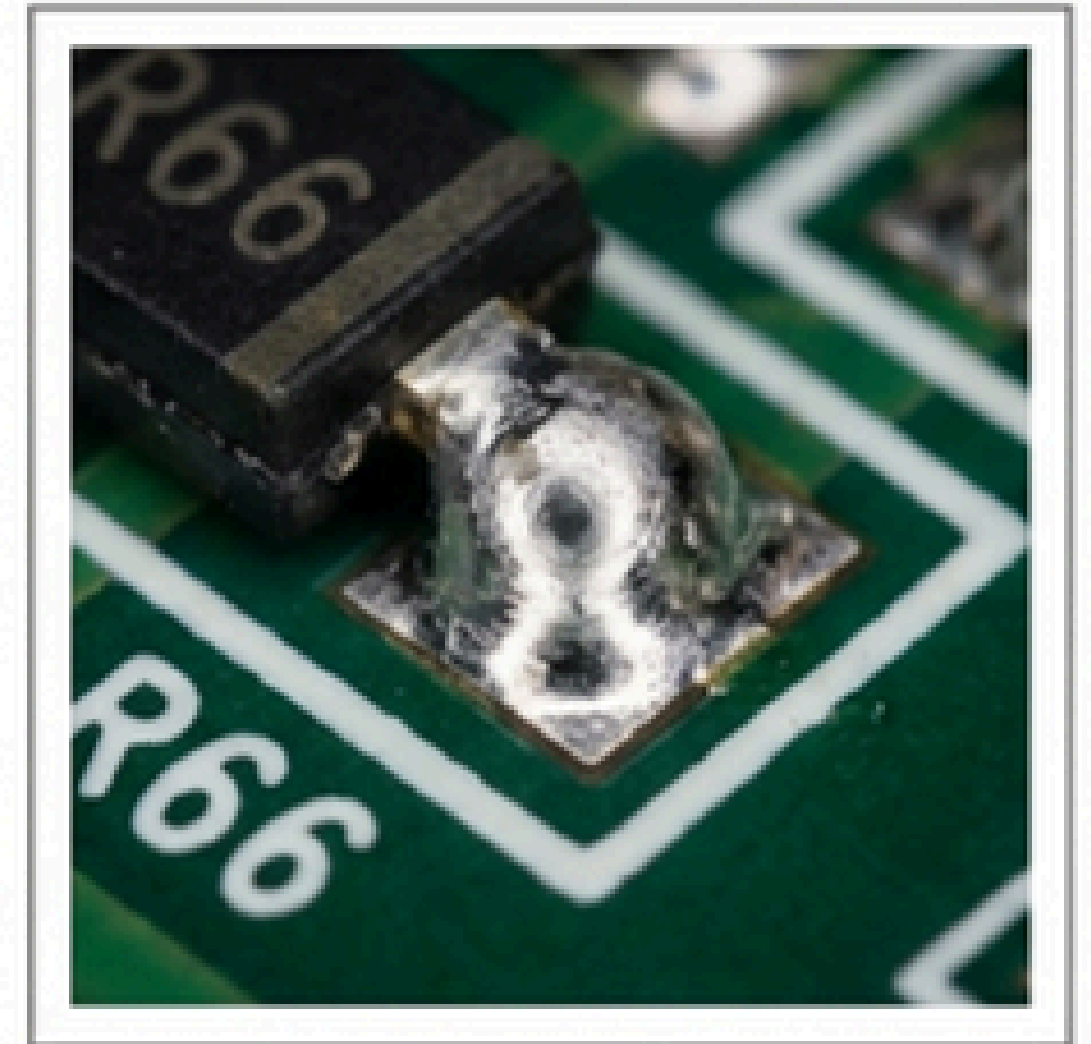
The Evidence: Defects That Escape Manual Inspection



SOLDER BRIDGE (U10)



MISSING SOLDER (R31)



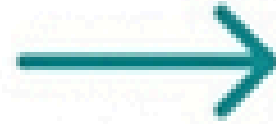
SOLDER DEFECT (R66)

Every Escape Erodes Your Bottom Line.



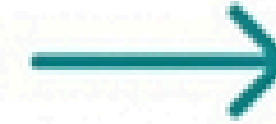
Immediate Cost: Rework & Scrap

Direct labor and material costs from in-house failure analysis and repair.




Mid-Term Cost: Field Failures & Returns

Warranty claims, reverse logistics, and replacement unit expenses.



Long-Term Cost: Customer Trust & Reputation

The hidden, unquantifiable cost of losing a key account due to quality issues.

A large industrial machine, likely a PCB inspection system, with a silver and black color scheme. The text "MAXSERIES S-L680" is visible on the upper left side of the machine. The machine has a complex structure with various panels and a large black rectangular component on the right side.

MAXSERIES
S-L680

From Human Error to Machine Certainty.



TIRELESS PRECISION:
Runs 24 hours a day
without fatigue or
emotion.



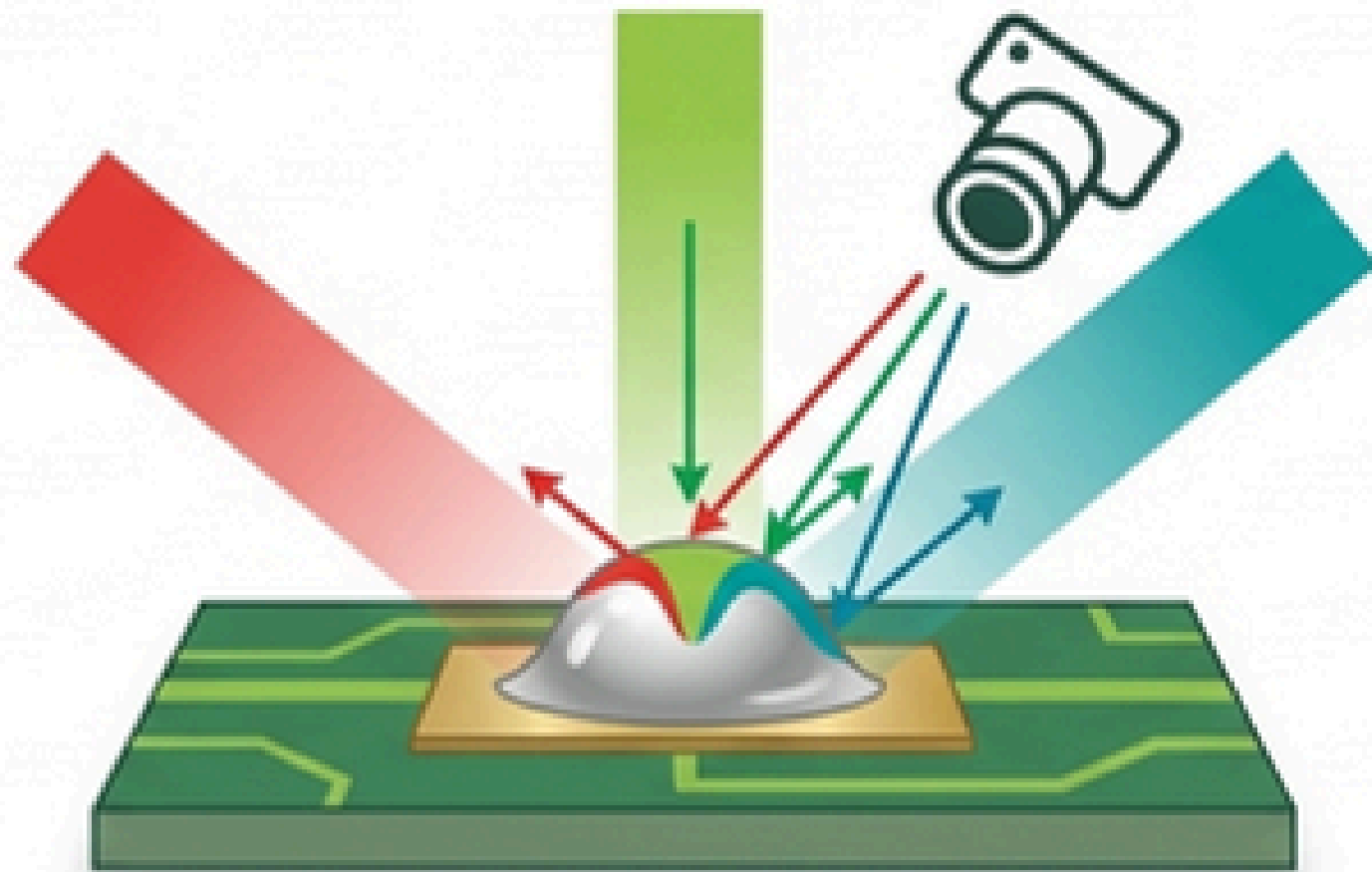
ABSOLUTE CONSISTENCY:
Standardized inspection,
every second, every board.



INTELLIGENT DETECTION:
Sees what the human eye
can't, powered by advanced
optical analysis.

How We See the Invisible.

Advanced RGB Lighting



Multi-angle RGB light sources convert physical topography into clear color data.

Intelligent Algorithms

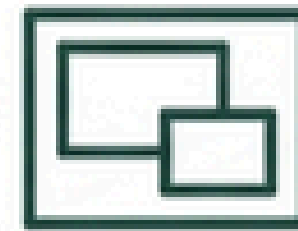


Image Contrast (Region Method)

Locates components and detects missing, wrong, or reversed parts.



Color Extraction

Analyzes color data from solder joints to find defects like "more tin" or "less tin".



OCV/OCR

Verifies silkscreen characters to catch misprints and identify wrong parts.

Your New Reality: 24/7 Production with Zero Escapes.

Manual Inspection



- Subject to fatigue
- Variable standards
- Requires 2-3 shifts for 24/7 coverage
- Prone to escapes

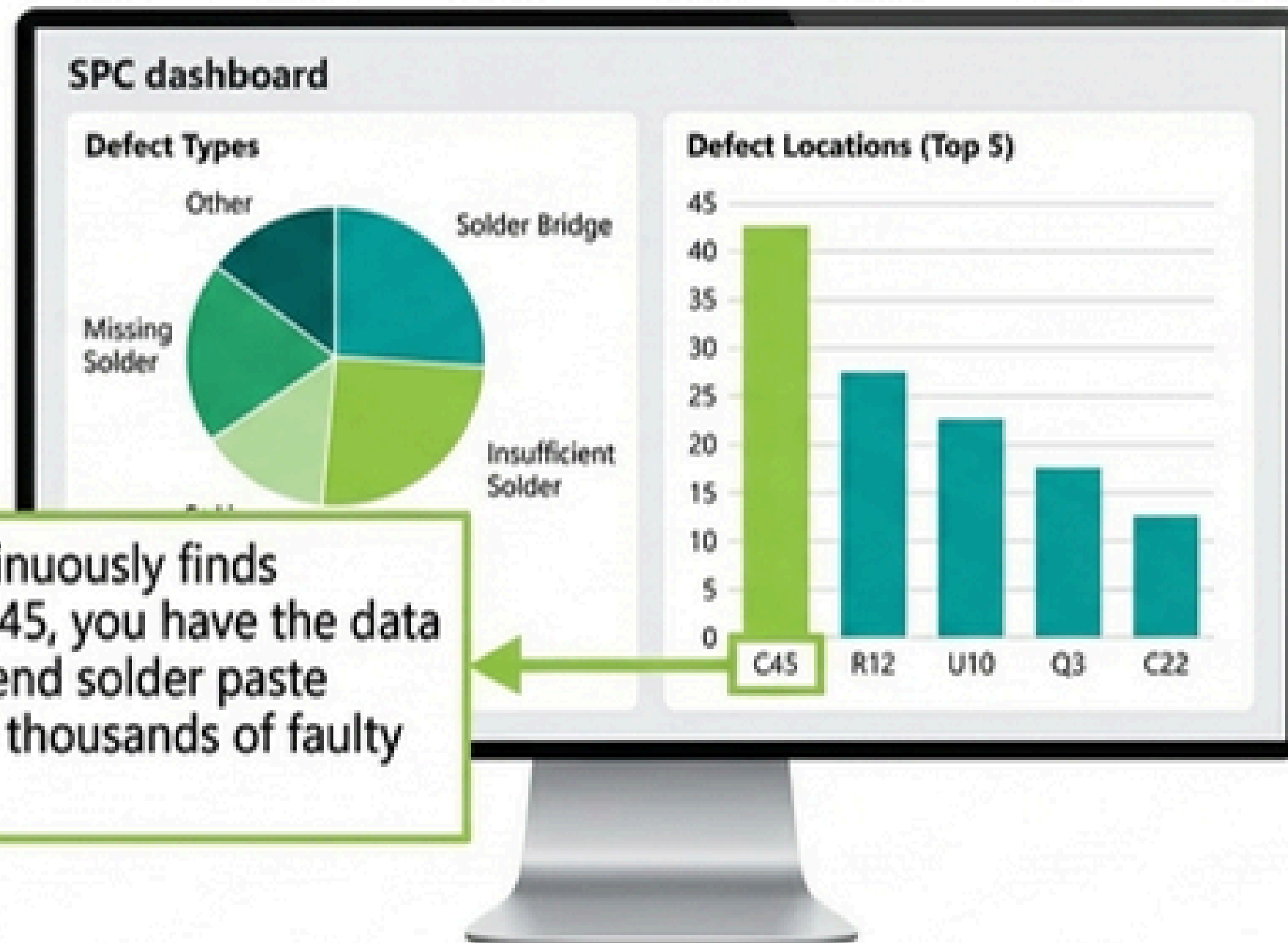
Automated Inspection



- ✓ Consistent 24-hour operation
- ✓ Standardized digital precision
- ✓ One-time investment
- ✓ Captures defects reliably

Don't Just Find Faults. Prevent Them.



Our AOI is more than a quality gatekeeper; it's a process control station. The built-in SPC (Statistical Process Control) function tracks defect data in real-time.



Insight: If the AOI continuously finds 'insufficient solder' at C45, you have the data to optimize your front-end solder paste printing process before thousands of faulty boards are made.

The Undeniable ROI: Payback in as Little as 6 Months.

COST SAVINGS (Per Month)

-  Labor Replacement:
3 QC Inspectors x \$800/mo = \$2,400
-  Rework Prevention (Est.): \$1,000

\$3,400

Total Monthly Savings

INVESTMENT

Southern Machinery AOI: \$30,000

PAYBACK PERIOD

$$\frac{\$30,000}{\text{Investment}} \div \frac{\$3,400}{\text{Monthly Savings}} = 8.8 \text{ Months}$$

~9 Months

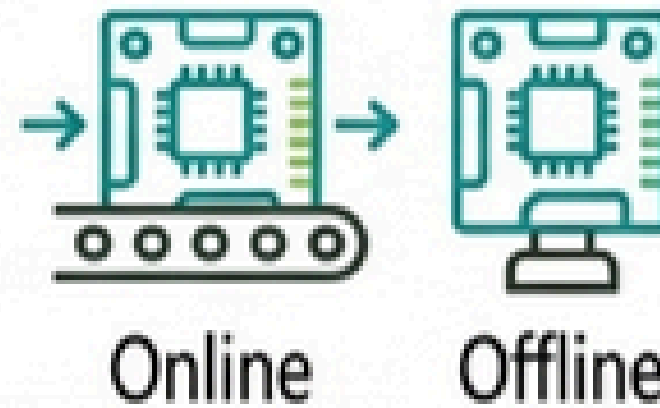
**Figures are illustrative. A custom ROI will be prepared for your specific production line.*

Engineered for the Realities of Your Factory Floor.



Fast Programming

Import CAD data to automatically generate inspection programs. Reduce setup time from hours to as little as 15 minutes.



Online

Offline

Online vs. Offline Models

Choose the S-L680 for full production line integration or the S-H680 for flexible, high-mix, small-batch scenarios.



Offline Programming (OLP)

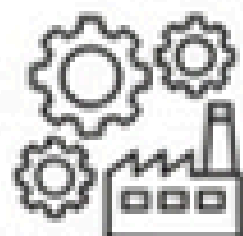
Optimize and adjust parameters on a separate terminal without stopping the production line, maximizing uptime.



Precision Mechanics

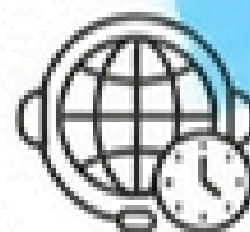
AC servo motors and precision ball screws ensure repeatable positioning accuracy of $\leq 8\mu\text{m}$ for ultimate reliability.

Your Partner in Manufacturing Excellence.



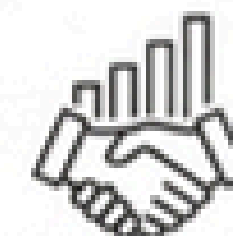
Shenzhen Expertise

Leveraging over a decade of manufacturing expertise to deliver cost-effective, high-efficiency automation solutions.



Global Service

Rely on our 7x24 worldwide support, remote debugging capabilities, and rapid spare parts availability.



Proven Results

Trusted by 237+ EMS clients globally to reduce costs and eliminate production bottlenecks.

Let's build your custom business case.