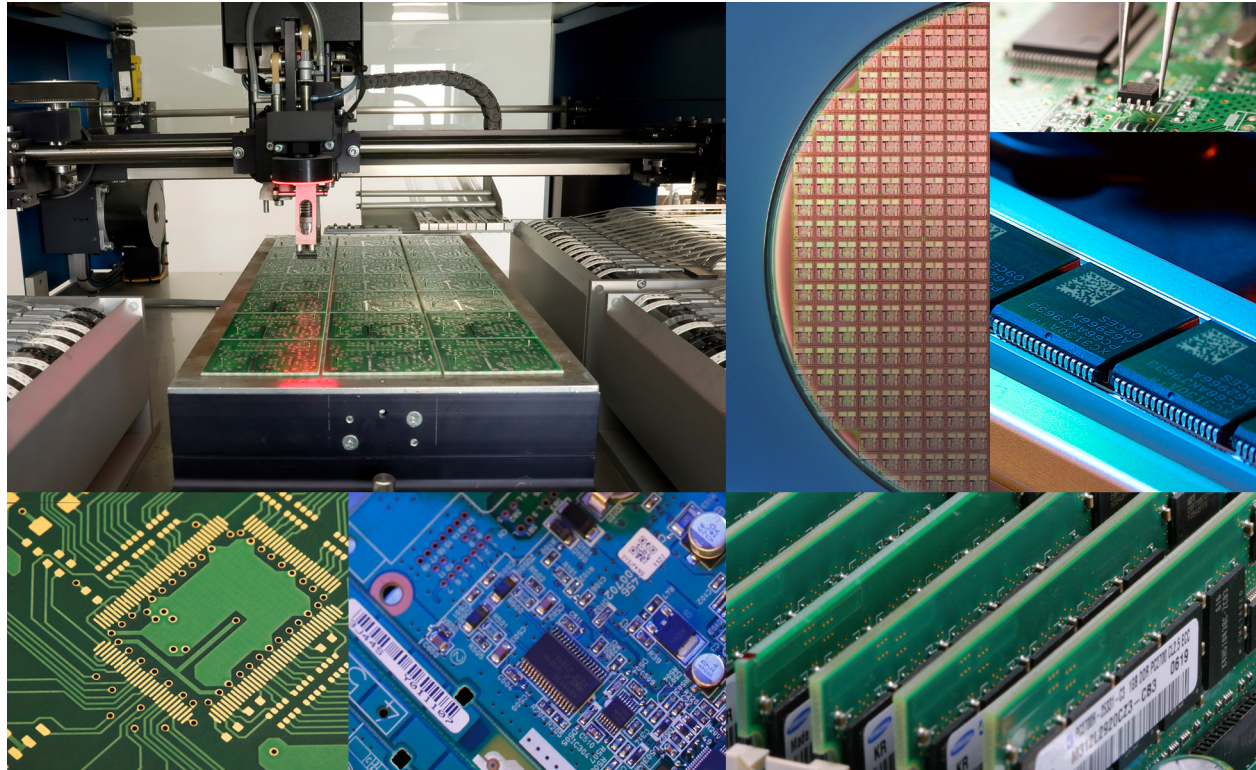


ELECTRONICS SOLUTIONS

Track, Trace & Control

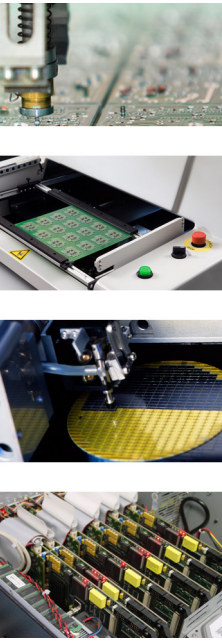


MICROSCAN®



Track, Trace and Control

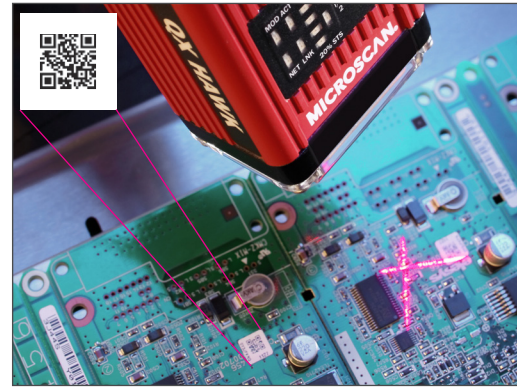
Industry leaders within electronics and semiconductor manufacturing need to enable lean manufacturing, assure quality, and optimize efficient use of resources. Microscan's barcode and machine vision products are commonly used throughout automated electronics assemblies to monitor, track, and trace critical data to ensure quality while maximizing productivity.



Experts in Electronics Applications:

- High speed 1D/2D symbol reading
- Decoding of challenging, high density codes
- Compact sizes and wide fields of view
- Broad range of products
- Laser scanner and imager configurations
- Multiple resolutions, auto focus and other options
- High quality optics and specialized designs
- Long term product availability
- Extensive customization capabilities
- Worldwide presence and support
- 25+ years of solutions expertise

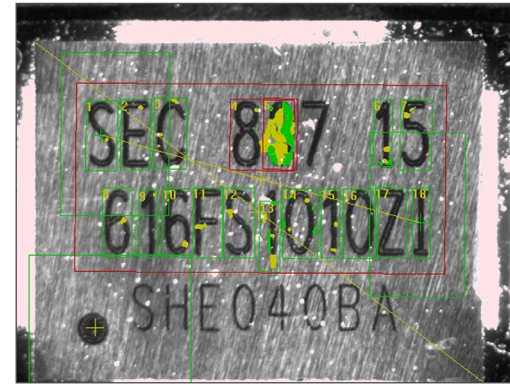
Barcode Traceability



Use 1D/2D barcodes for identification, traceability and tracking:

- Lot level traceability
- Time/date stamping
- WIP tracking
- Component level traceability
- Reject and test tracking
- Recall management

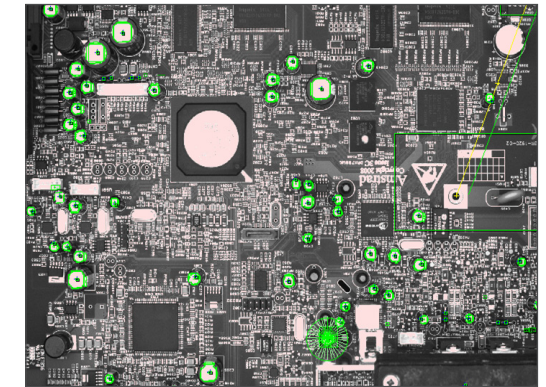
OCR/OCV Verification



Use human readable text for product serialization or to verify component identification:

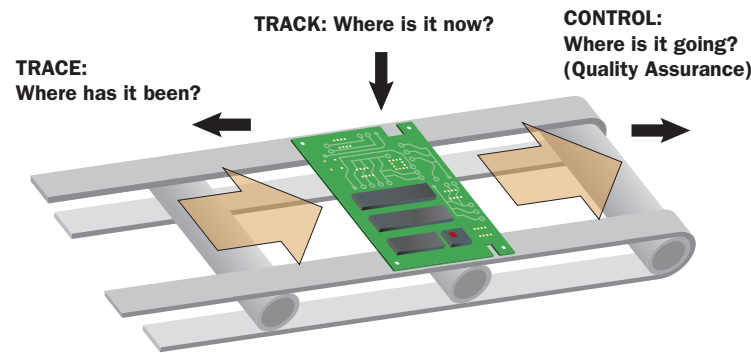
- Optical Character Recognition (OCR)
- Optical Character Verification (OCV)
- Component traceability
- Packaging lot level traceability
- Verification of proper sequence
- Verification of print quality and correctness

Product Inspection



Use machine vision to ensure quality through inspection, identification, measurement and guidance:

- Label presence/position
- Component presence/position
- Component polarity
- Adhesive bead/dot inspection
- Completeness check
- Reject identification
- Counterfeit prevention



TRACK (Present)

Auto ID and machine vision are used to track parts that are work-in-process, or "WIP".

TRACE (Past)

Traceability is the ability to recreate or "trace" the manufacturing steps, processes, or location of a part before it becomes a completed assembly.

CONTROL (Future)

Control is used to decide what step or future process a part must undergo, or to ensure quality and verify packaging.

RECEIVING



APPLICATIONS

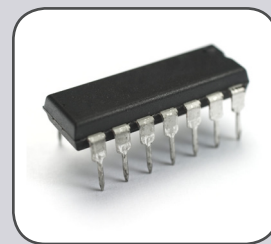
- Inventory control
- Quality inspection
- Receiving confirmation
- WIP tracking
- Unique ID verification

TRACK: Track materials entering facility and materials usage

TRACE: Confirm material matches order

CONTROL: Inspection of vendor-supplied product

MARKING & KITTING



APPLICATIONS

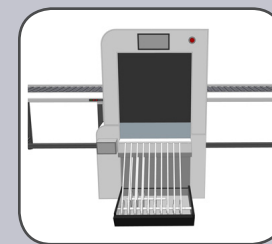
- Code/mark verification
- Confirming BOM
- Correct component verification
- Material verification
- WIP tracking

TRACK: Track proper lot quantities, flow of components, WIP visibility

TRACE: Initiate life cycle of parts through marking unique ID

CONTROL: Ensure quality control, pass/fail inspections

PICK & PLACE



APPLICATIONS

- PCB assembly number verification
- Robotic guidance
- Inventory backflushing
- Date/time stamping
- Component/reel verification on machines

TRACK: Track which components are placed on each board

TRACE: BOM traceability of components to work orders

CONTROL: Ensure absence/presence and correct component placement

INSPECTION



APPLICATIONS

- Verify quality at check-points
- ICT date/time stamping
- Receiving confirmation
- OCR/OCV verification
- Dimensional testing
- Cosmetic screening

TRACK: Provide pass/fail visibility of boards for quality testing and yield outputs

TRACE: Unit level validation of confirmed test

CONTROL: Matching proper inspection to PCB assembly

FINAL ASSEMBLY



APPLICATIONS

- Dimensional testing
- Lot tracking and verification
- Case/pallet ID matching
- Finished goods conversion
- OCR/OCV verification

TRACK: Real-time visibility from line level output to total facility production output

TRACE: BOM relationships of assembled product

CONTROL: Verification of proper installation, cosmetic inspection, functional testing

FINAL PACK/SHIPPING



APPLICATIONS

- Sortation and routing
- Packing list verification
- Outbound documentation
- WIP tracking
- OCR/OCV verification

TRACK: Overall plant productivity of all lines

TRACE: Providing full product genealogy and traceability report

CONTROL: Match pallet to case code; verify/match customers orders to shipments

COMPANY & PRODUCTS

Microscan is a manufacturer and global provider of track, trace, and control solutions to top electronics and SMT companies. Our barcode and machine vision products help companies around the world to drive down cost and waste, automate critical manufacturing processes, and increase yields through precision data acquisition. As an ISO 9001 certified company recognized for quality leadership, Microscan is known and trusted by customers worldwide as a provider of quality, high precision products.

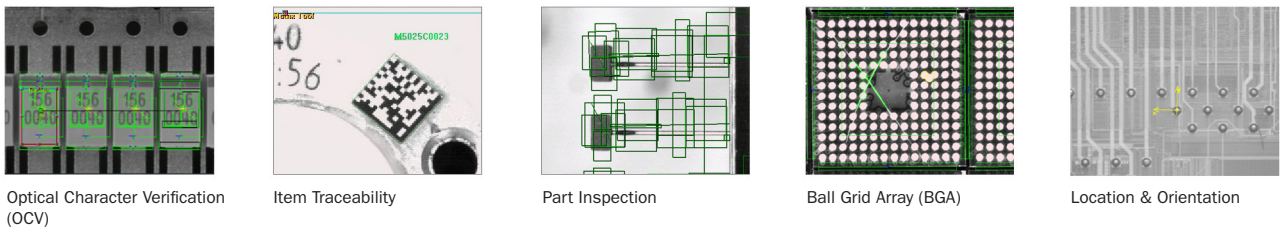
AUTO ID Barcode Readers & Verifiers

Microscan offers fast, reliable barcode readers for all standard linear barcodes and 2D symbols. Features include small size, high speed reading, wide field of view, symbol reconstruction, and aggressive decoding technology.



MACHINE VISION Software, Hardware & Lighting

Microscan holds one of the world's most robust patent portfolios for machine vision technology. Our products include machine vision software, smart cameras, and lighting for applications such as identification, inspection, and measurement.



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