Industry leaders within electronics and semi-conductor manufacturing need to enable lean manufacturing, assure quality, and optimize efficient use of resources.

Microscan products help these companies to maximize quality, productivity, and efficiency through diverse applications such as:
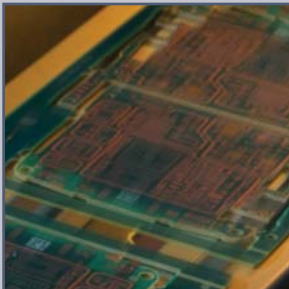
Auto ID Tracking & Traceability

- Printed circuit board traceability
- Sub-assembly tracking
- Traceability through SMT processes
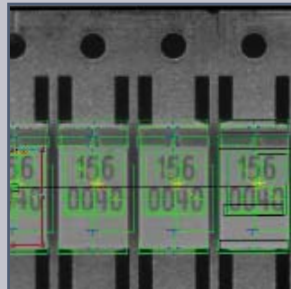- Quality assurance
- Semi-back wafer tracking

Machine Vision

- Wafer positioning
- Location & alignment for pick and place
- Color matching
- Ball grid array inspection
- Die attach bond inspection
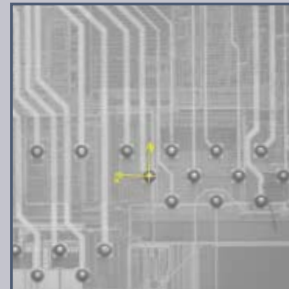- Measure solder paste levels
- Robotic guidance

Application Examples

- Reading and verification of marked Data Matrix
- High speed, multi-camera inspection of defects
- Dimensional check inspection
- Reading Data Matrix and Optical Character Recognition (OCR)

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Examples of Electronics Inspection & Identification

Electronic Components and Carrier Tape
- Capacitors
  - In-process and final inspection
  - Mold inspection and mark inspection
  - Dimensional checks
- Diodes
  - Dimensional checks and surface flaws
- Resistors
  - Voids or holes on resistor material and laser trim position
  - Lead inspection
- Fuses
  - Presence of lettering and rating logo
- Carrier tape
  - High speed inspections of pocket length, width, pitch, strip, etc.

Connectors
- Connector pins in strip form
  - Various high speed inspections
  - Verification of gold plating presence
- Compact PCI connectors
  - Pin presence
  - True position grid conformance measurements
- SFM connectors
  - Pin presence and pin coplanarity measurements on pin rows
- DIMM, SCA, straight socket, etc.
  - Pin presence
  - True position grid conformance measurements on tail side
  - Gap width and gap width center measurements on contact/ socket side
- BGA connectors
  - Ball presence, location, pitch, diameter and circular inspection
  - Fiber optics connectors
  - High precision measurements of ferule

Printed Circuit Boards (PCBs)
- PCBs
  - Traceability using directly marked Data Matrix
  - Traceability using barcodes or PDF417 on labels
  - Inspection for fiducial presence and quality
  - Epoxy dots presence/absence and size
  - Assembly verification for specific components
- Flex circuits, hybrid circuit substrates, and strain gauges
  - Various dimensional inspections on circuit traces
  - Open/short circuit checks
  - Unit level traceability using Data Matrix

Cell Phones and Pagers
- Cell phones
  - Display and keypad inspection
  - Traceability of PCBs, housings and bags using Data Matrix
- Pagers
  - Vision guided robotic assembly
  - Traceability using directly marked Data Matrix
  - Display and logo print quality inspection

Displays
- Liquid Crystal Displays (LCDs)
  - Unit level traceability using laser marked Data Matrix
  - Various inspections
- TV tubes
  - Stripe defect detection

Disk Drives and Compact Disks (CDs)
- Disk drives
  - Various high-resolution inspections of read/write disks
  - Optical character recognition (OCR) of laser etched characters on sliders
  - Component traceability using Data Matrix
- Compact disks
  - OCR on laser etched characters

Printers
- Ink jet printers
  - Various inspections for printer components including print gap measurement and adjustment
- Ink jet cartridges
  - Ink jet cartridge traceability using Data Matrix printed in ultra violet ink
  - Ink jet cartridge inspection for lid and carton correctness, label position and print quality
  - Inspection of bag seal for folds

Batteries
- Label inspection for print quality, correctness, position and skew
  - OCR of part numbers and barcodes
  - Leak detection

Theft prevention sensors
- Foil strip alignment and other inspections
  - Labels on electronic products or packages
  - Label inspection for correct model number
  - Inspection for holes, rips, peeling, air bubbles

BGA/CSP and Bumped Die Inspection
- Comprehensive inspection options
  - Presence/absence
  - Position and pitch
  - Diameter and circularity
  - Extra spheres
- Flexible part definition
- Simplified parameter input
- Multiple parts in FOV
- Detailed reports and statistics

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