## OUR VISION TECHNOLOGIES

### PRODUCT INSPECTION
- Capsules in bottle fillers
- Tablets in bottle fillers
- Tablets in blisters
- Capsules in slat fillers
- Tablets in slat fillers
- Vials
- Ampules
- Breast implants

### PACKAGING INSPECTION
- Bottles
- Vials
- Pouch cases
- Vial cases
- Vial cases
- Breast implants

### LABELING AND PRINTING INSPECTION
- Cartons
- Medical inhalers
- Vials
- Bottles
- Labels
- Bottles
- Cartons
- Large label webs

### KIT INSPECTION
- Kits cases
- Medical trays
WHAT ARE VISION SYSTEMS?

AN INTRODUCTION TO MACHINE VISION SYSTEMS

Vision systems, also called machine vision systems, are automated inspection systems based on imaging technologies such as cameras or scanners.

Going one step further than traditional vision systems, automated vision solutions allow 100% inspection of labels and packaging, helping manufacturers from several industries such as pharmaceuticals, life sciences, medical devices and food and beverage reach critical goals:

- Reduce the number of rejects due to quality issues related to product, seal or packaging integrity
- Avoid recalls related to mislabeling or printing problems
- Achieve regulatory compliance
- Efficiently track products
- Improve line productivity and quality control

Machine vision systems can see everything that the human eye can’t see, and can easily assess, verify and inspect any product, as well as detect millimetric differences in components, such as positioning, shape and dimensions, at any step of the manufacturing process.

Our innovative, flexible, automated vision systems have multiple applications, directly benefiting the life science industry and its stakeholders:

- PRODUCT INSPECTION
- PACKAGING INSPECTION
- KIT INSPECTION
- LABELING AND PRINTING INSPECTION
Founded as Optel Vision in 1989, OPTEL GROUP initially used its expertise in optics, electronics and computing to design personalized manufacturing solutions. A decade later, the company began developing advanced vision systems to inspect the quality of pharmaceutical products and packaging.

OPTEL has helped the pharma industry comply with serialization regulations through innovative traceability solutions. Today, OPTEL is the only company with the ability to offer true end-to-end traceability solutions, providing visibility across the entire supply chain, from raw materials to the consumer.

OPTEL provides a wide range of industries (pharmaceuticals, life sciences, medical devices, food and beverage, mining, agrochemicals, etc.) with actionable, real-time data. With these insights, you can ensure the quality, integrity and authenticity of your products, secure your supply chain, optimize operational efficiency, mitigate counterfeiting, reduce waste, and more.
With 30 years’ experience in machine vision and thousands of successful projects, OPTEL has mastered **product, packaging, kit, labeling and printing inspection**. From transparent surfaces, embedded codes and tamper-evident seals to UV reactive codes, nothing can escape our advanced vision capabilities.

We guarantee your project’s success, thanks to our finely tuned project management process and our ability to integrate custom-designed solutions — regardless of complexity. Over the years, our expertise and solutions have helped hundreds of companies around the world **meet compliance requirements and ensure the quality of their products**.

To offer turnkey solutions, OPTEL takes into account your **local conditions** and the different **configurations** of your production and packaging lines, ensuring seamless integration. We are also very familiar with quality standards and regulatory compliance, as well as tight **deadlines** and other **constraints**.

**Partners with OPTEL.**

Bring your inspection and traceability projects to the next level.
OPTEL’s InspectSafe™ is a scalable vision system that combines the power of proven expertise and innovative technologies. Available in three configuration levels and displays, it can easily adapt to the requirements and space constraints of any packaging line.

This reliable automated vision system can inspect the physical characteristics and presence of components contained in kits and trays, as well as labels, vials, blisters, cartons, cases, and more. Entirely serialization-ready, InspectSafe™ assesses fixed and variable data on labels, webs, direct-marked products, flip-off caps and other types of packaging.

InspectSafe™ increases overall line performance and quality assurance to help manufacturers avoid recalls linked to mislabeling and rejects related to product integrity. It also reduces downtime, false rejects and rework.

Whether you are looking to automate quality checks on your packaging line or to comply with regulations, InspectSafe™ can to adapt to your reality and gives you the flexibility you need to succeed in the new manufacturing era of Industry 4.0.

**KEY FEATURES**

InspectSafe™ offers more than 60 functionalities across four inspection categories:

- **Product inspection**: Unit dimensions, shape, color, direct product marking (embossed codes)
- **Packaging inspection**: Packaging integrity, seal inspection, inserts, topsets and sidesets, cap and tamper-evident seals
- **Kit inspection**: Component presence, shape and dimensions
- **Labeling and printing inspection**: Label presence, orientation, print positioning and quality, artwork and variable data, barcodes and grading; verification of characters (OCV/OCR on lot, expiry date, DIN/NDC, label ID and serial number); online grading of linear barcodes and 2D codes (Data Matrix) according to ISO/IEC standards

**KEY BENEFITS**

- Optimized systems
- High accuracy (low false-reject rate)
- Integration including IQ/OQ documentation
- Scalable configuration
- ERP connectivity
- Full reporting
PRODUCT INSPECTION

CAPSULES IN BOTTLE FILLERS

Color, size and integrity verification on capsules

- No defect
- Oversized capsule
- Wrong color, i.e., wrong capsule

TABLETS IN BOTTLE FILLERS

Color, size and integrity verification on tablets

- Broken tablet
- Oversized tablet, i.e., wrong tablet
TABLETS IN BLISTERS

Color, size, presence and integrity verification on tablets

- **Defect**
- **One tablet missing**
- **Wrong color, i.e., wrong tablet**

CAPSULES IN SLAT FILLERS

Color, size, presence and integrity verification on capsules

- **Oversized capsule**
- **Wrong color, i.e., wrong capsule**
TABLETS IN SLAT FILLERS

**Color, size, presence** and **integrity** verification on tablets

- **Wrong color, i.e., defect**
- **Oversized tablet, i.e., wrong tablet**
- **No defect**

- **Undersized tablet, i.e., broken tablet**
VIALS

**Glass ring integrity** verification

- **OK**
- **Defect**

AMPULES

**Ring color** and **presence** verification

- **OK**
- **Wrong color**
AMPULES

Ring color and size verification, and distance between rings

- ✅ OK
- ❌ Wrong width on one ring
- ❌ Wrong color on one part

BREAST IMPLANTS

Product marking (OCV/OCR) on transparent surface

- ✅ OK
- ✅ OK (character recognition regardless of device’s position)
- ❌ Wrong code detected, i.e., invalid code
PACKAGING INSPECTION

BOTTLES

Shrink wrap verification

- ✔ OK
- ❌ Defective, too narrow
- ❌ Defective, oversized

BOTTLES

Cap position verification

- ✔ OK
- ❌ Wrong
- ❌ Wrong
BOTTLES

Topsert leaflet presence and position verification

- ✔ OK
- ✗ Wrong position

VIALS

- Cap and crimp position, presence, integrity, color and tilt verification

- ✔ No defect
- ✗ Defective cap application
- ✗ Missing cap
VIALS

Flip-off cap and seal color, position, integrity and presence verification

- **No defect**
- **Defective seal**
- **Wrinkled seal**
- **Tilted flip-off cap**
POUCH CASES

Count and position verification

- OK
- One pouch missing
- Wrong position

VIAL CASES

Count and color verification

- OK
- Low count
VIAL CASES

Vial count, color, presence and leaflet presence verification

- **No defect**
- **One extra vial and missing leaflet**

Leaflet presence and size verification

- **OK**
- **One oversized leaflet and one missing leaflet**
- **One undersized leaflet and one extra leaflet**
BREAST IMPLANTS

Seal inspection and integrity verification

- OK
- Particle (hair) found in seal
- Integrity defect

- Broken seal
LABELING AND PRINTING INSPECTION

CARTONS

**Embossed marking data (OCV) verification**

- ✔️ No detect
- ✖️ Incomplete embossed number
MEDICAL INHALERS

Label position verification

- ✓ No detect
- ✗ Wrong position
- ✗ Wrong position

VIALS

Label presence verification

- ✓ No detect
- ✗ Label not found
- ✗ Label partially found
BOTTLES

Label position and presence verification

- **✅ No detect**
- **❌ Wrong angle**
- **❌ Wrong junction**
LABELS

OCV/OCR, Data Matrix, barcode, logo and print quality verification

☑️ OK

☒ Stain

OCV/OCR, Data Matrix, logo and print quality verification

☑️ OK

☒ Misspelled word
BOTTLES

Data Matrix validation, and crimp position and integrity verification

✅ OK

⚠️ Wrong position

CARTONS

Data Matrix validation and variable data verification

✅ OK

⚠️ Defect
Simultaneous verification of Data Matrix, variable and fixed data (OCV/OCR), and verification of print quality and serialized data on unit doses

- **OK**
- **Data Matrix grade is too low**
- **Stain**
- **Data Matrix is impossible to read**
- **Wrong OCV**

LARGE LABEL WEBS
KIT INSPECTION

KIT CASES

Component count verification

- OK
- Component is present, but in the wrong position
- Missing item

MEDICAL TRAYS

Component count verification

- OK
- Missing component