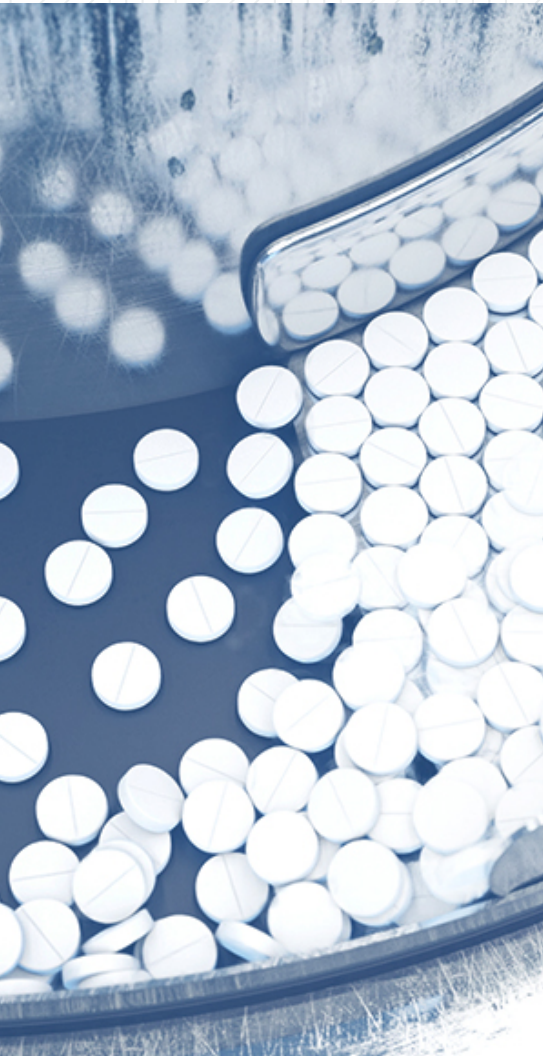


VISION SYSTEMS

TYPICAL APPLICATIONS





OUR VISION TECHNOLOGIES

5	What are vision systems?
6	Who we are
7	Why OPTEL?
8	Featured product: OPTEL's InspectSafe™

PRODUCT INSPECTION

9	Capsules in bottle fillers Tablets in bottle fillers
10	Tablets in blisters Capsules in slit fillers
11	Tablets in slit fillers
12	Vials Ampules
13	Ampules Breast implants

PACKAGING INSPECTION

14	Bottles
15	Bottles Vials
16	Vials
17	Pouch cases Vial cases
18	Vial cases
19	Breast implants

LABELING AND PRINTING INSPECTION

20	Cartons
21	Medical inhalers Vials
22	Bottles
23	Labels
24	Bottles Cartons
25	Large label webs

KIT INSPECTION

26	Kits cases Medical trays
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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

WHO WE ARE

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.



WHY OPTEL?

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**.



GUARANTEED
SUCCESS



TURNKEY
SOLUTIONS



SEAMLESS
INTEGRATION

Partner with OPTEL.

Bring your inspection and traceability projects to the next level.

FEATURED PRODUCT: **OPTEL'S INSPECTSAFE™**

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 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, topserts and sideserts, 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

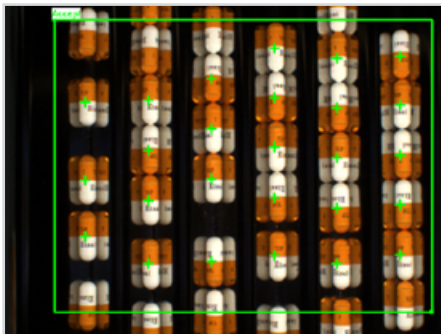


PRODUCT INSPECTION

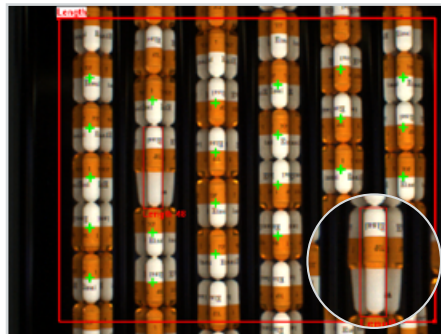
CAPSULES IN BOTTLE FILLERS

Color, size and integrity verification on capsules

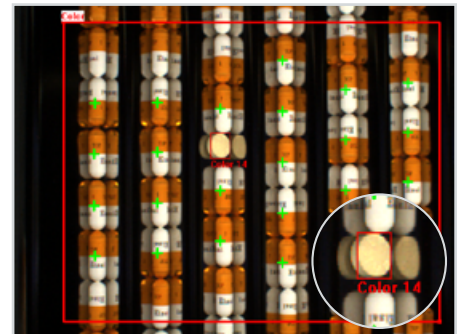
✓ **No defect**



✗ **Oversized capsule**



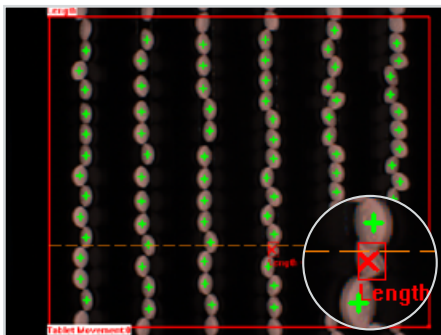
✗ **Wrong color, i.e., wrong capsule**



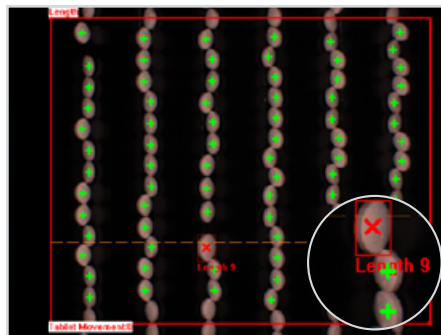
TABLETS IN BOTTLE FILLERS

Color, size and integrity verification on tablets

✗ **Broken tablet**



✗ **Oversized tablet, i.e., wrong tablet**



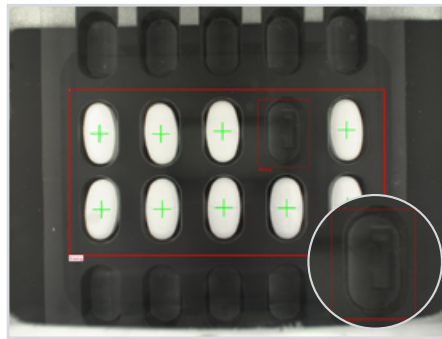
TABLETS IN BLISTERS

Color, size, presence and integrity
verification on tablets

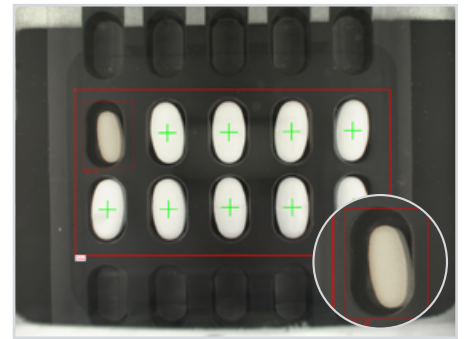
❌ **Defect**



❌ **One tablet missing**



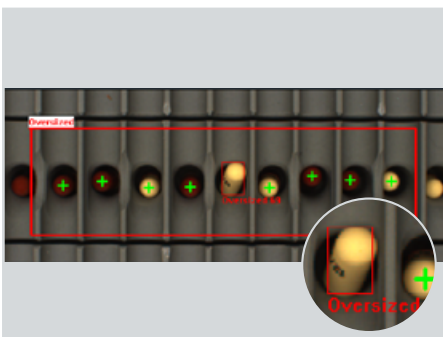
❌ **Wrong color, i.e., wrong tablet**



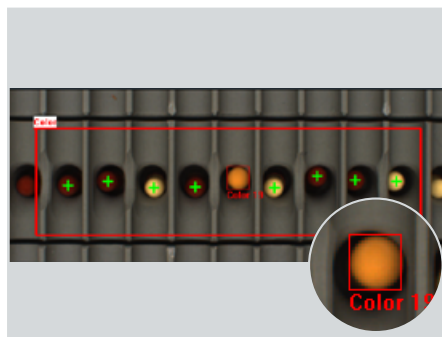
CAPSULES IN SLAT FILLERS

Color, size, presence and integrity
verification on capsules

❌ **Oversized capsule**



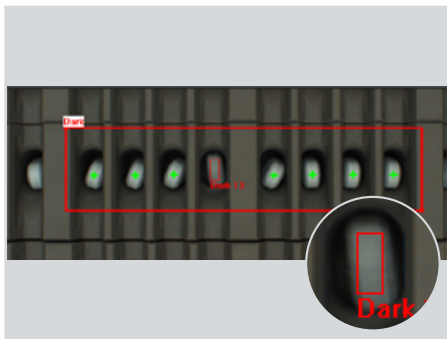
❌ **Wrong color, i.e., wrong capsule**



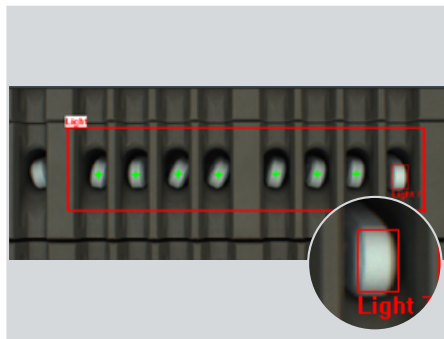
TABLETS IN SLAT FILLERS

Color, size, presence and integrity
verification on tablets

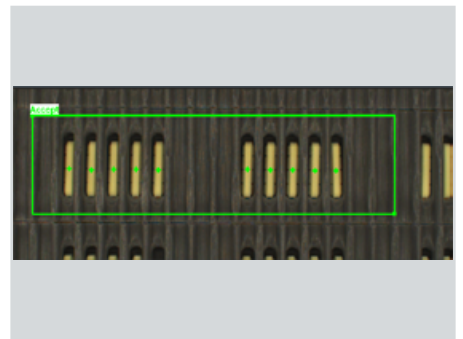
❌ **Wrong color, i.e., defect**



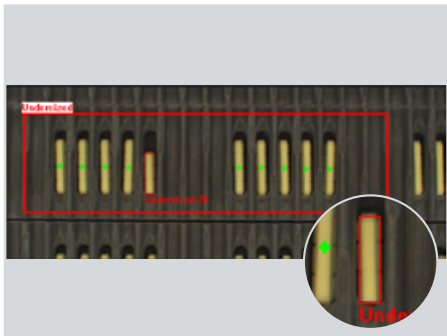
❌ **Oversized tablet, i.e., wrong tablet**



✅ **No defect**



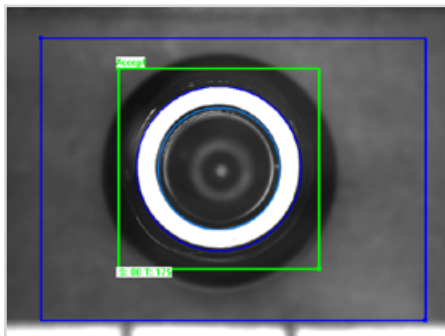
❌ **Undersized tablet, i.e., broken tablet**



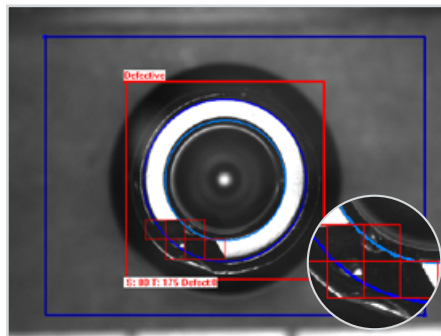
VIALS

Glass ring integrity verification

✓ OK



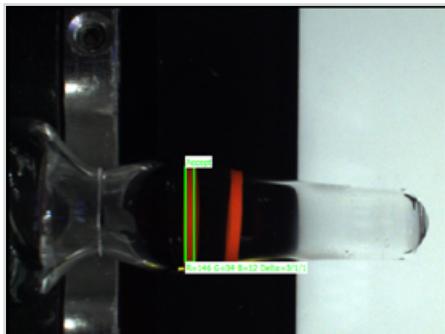
✗ Defect



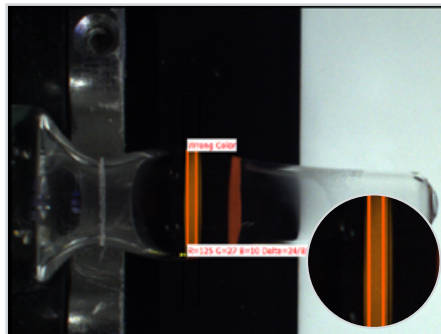
AMPULES

Ring color and presence verification

✓ OK



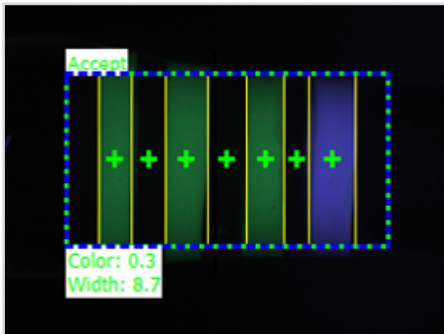
✗ Wrong color



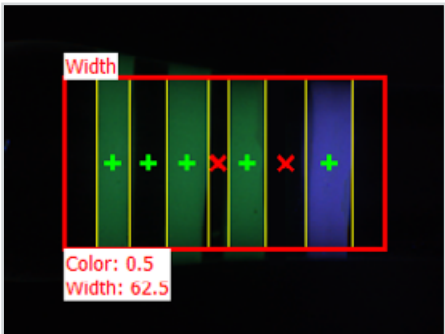
AMPULES

Ring color and size verification, and distance between rings

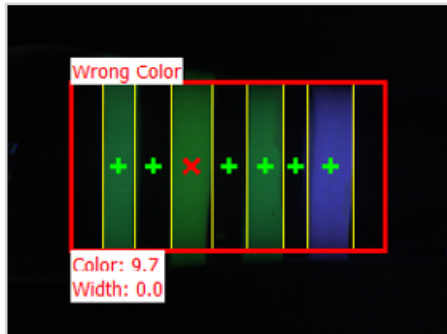
OK



Wrong width on one ring



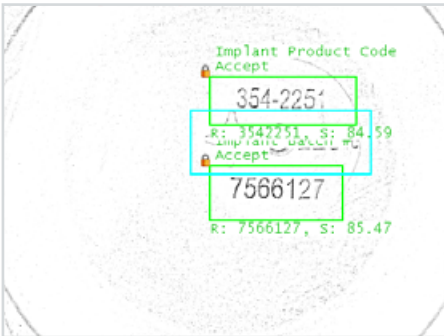
Wrong color on one part



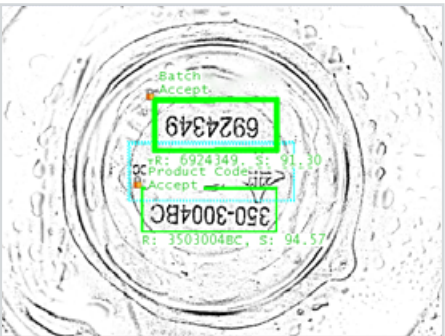
BREAST IMPLANTS

Product marking (OCV/OCR) on transparent surface

OK



OK (character recognition regardless of device's position)



Wrong code detected, i.e., invalid code

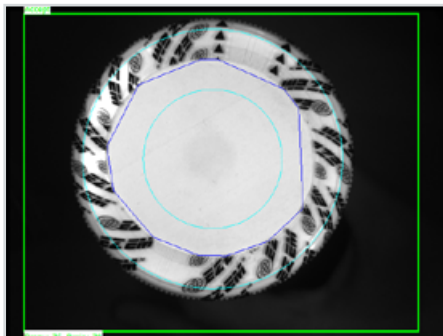


PACKAGING INSPECTION

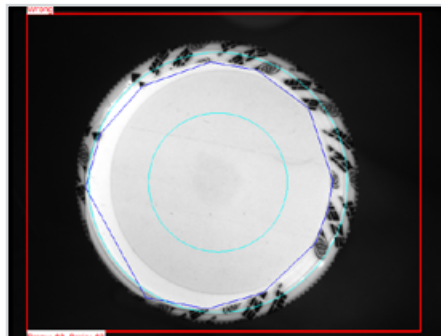
BOTTLES

Shrink wrap verification

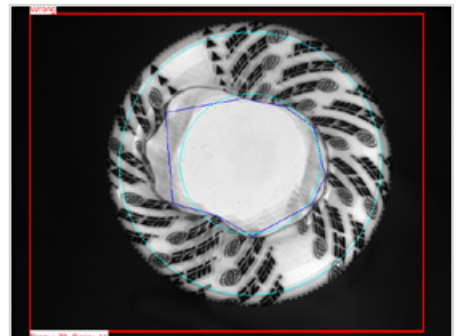
✓ OK



✗ Defective, too narrow



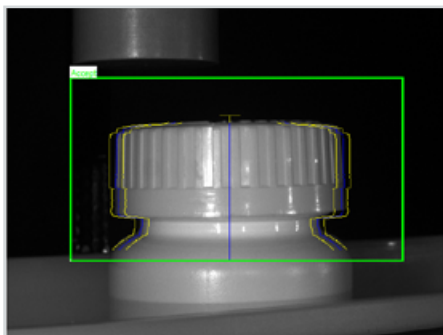
✗ Defective, oversized



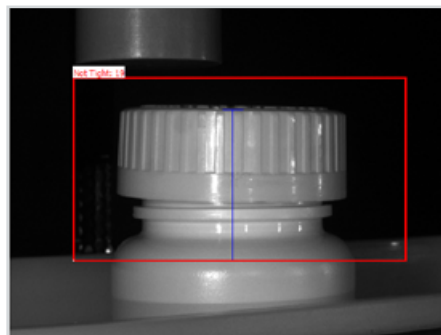
BOTTLES

Cap position verification

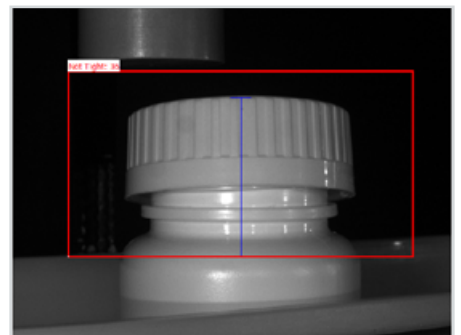
✓ OK



✗ Wrong



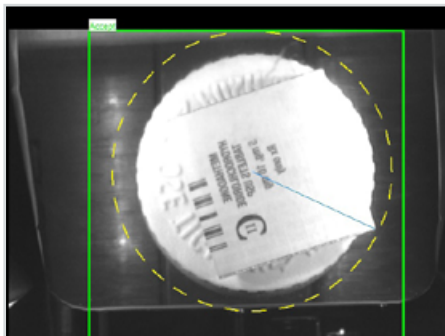
✗ Wrong



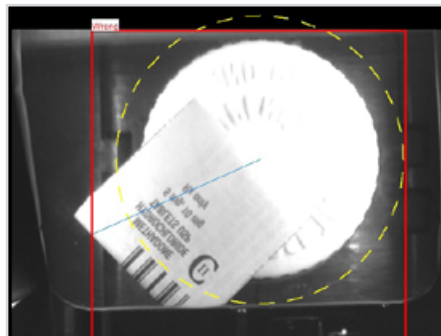
BOTTLES

Topsert leaflet presence and position verification

✓ OK



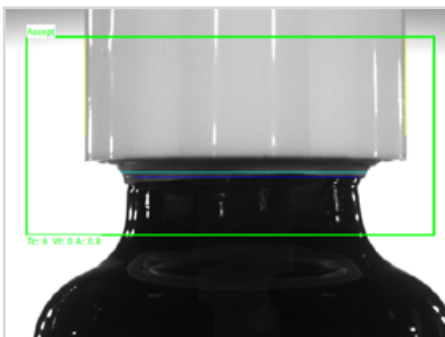
✗ Wrong position



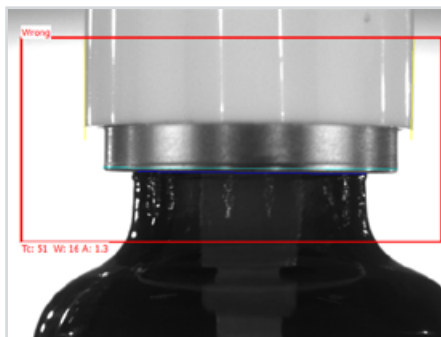
VIALS

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

✓ No defect



✗ Defective cap application



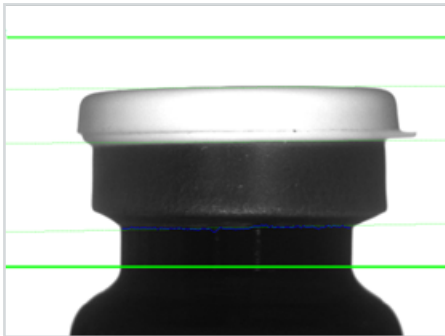
✗ Missing cap



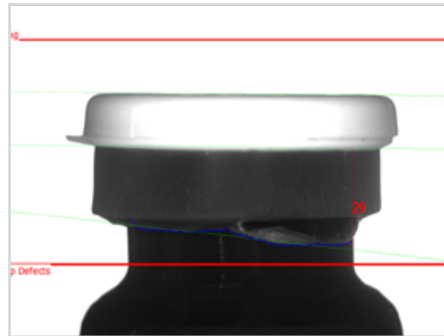
VIALS

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

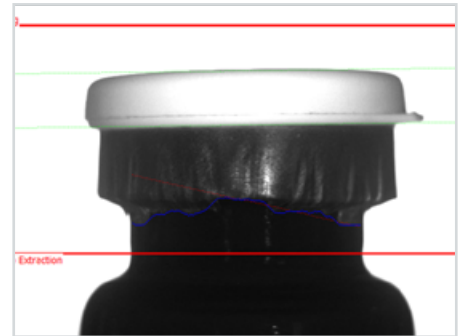
✓ No defect



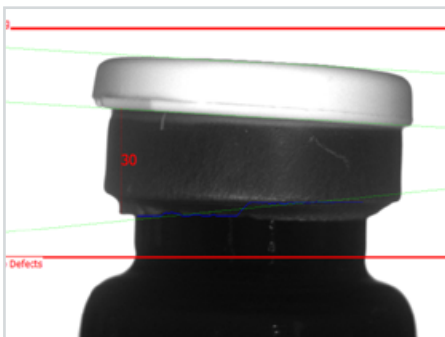
✗ Defective seal



✗ Wrinkled seal



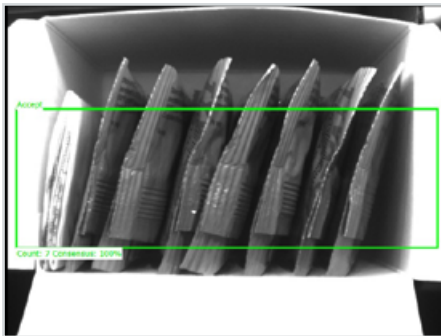
✗ Tilted flip-off cap



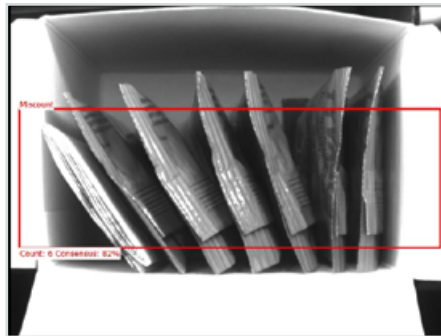
POUCH CASES

Count and **position** verification

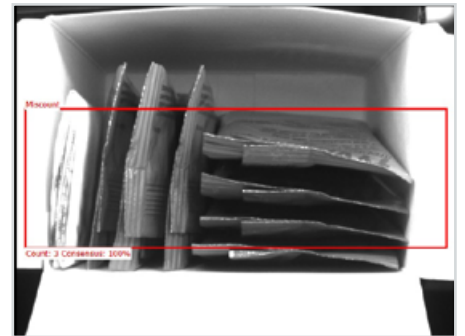
✔ OK



✘ One pouch missing



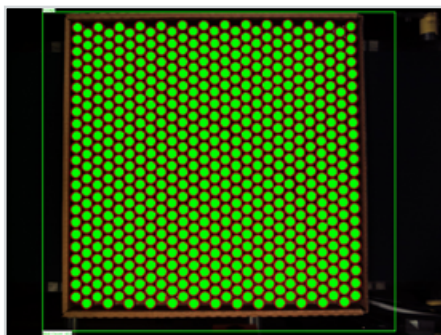
✘ Wrong position



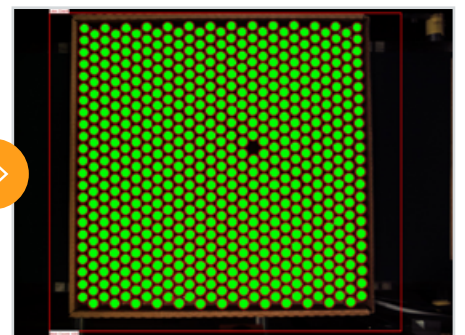
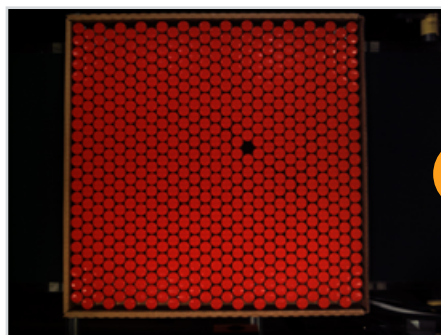
VIAL CASES

Count and **color** verification

✔ OK



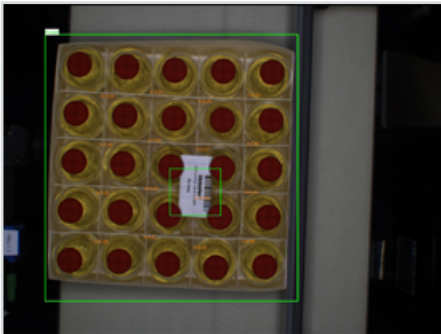
✘ Low count



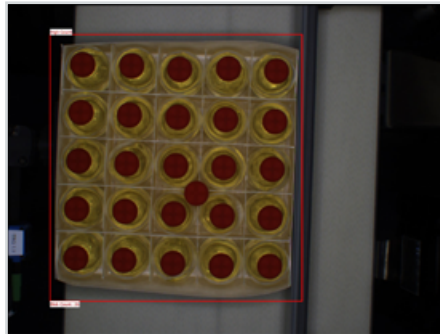
VIAL CASES

Vial count, color, presence and leaflet presence verification

✓ No defect

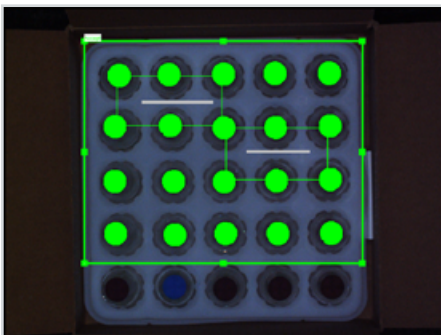


✗ One extra vial and missing leaflet



Leaflet presence and size verification

✓ OK



✗ One oversized leaflet and one missing leaflet



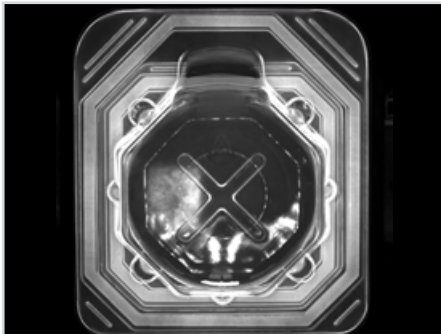
✗ One undersized leaflet and one extra leaflet



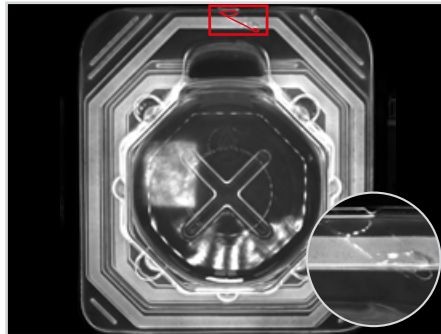
BREAST IMPLANTS

Seal inspection and integrity verification

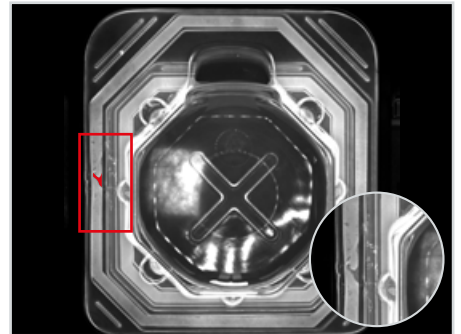
✓ OK



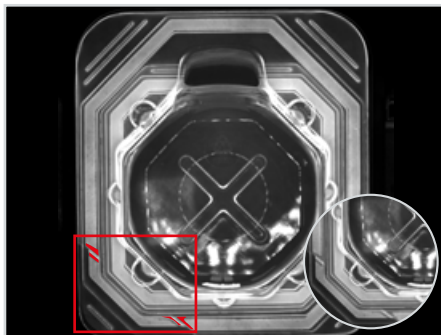
✗ Particle (hair) found in seal



✗ Integrity defect



✗ Broken seal



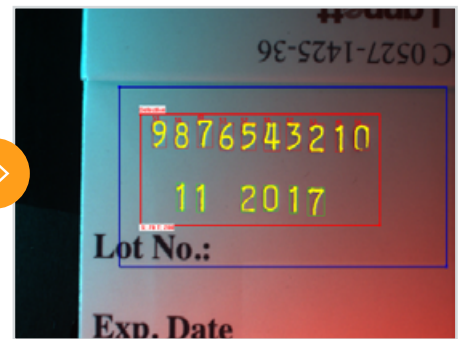
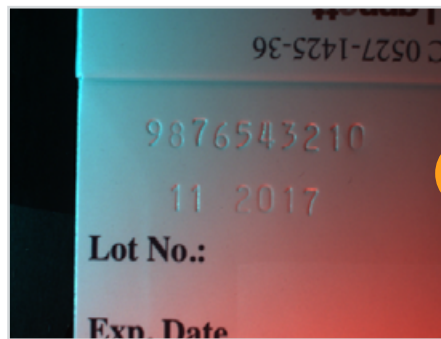
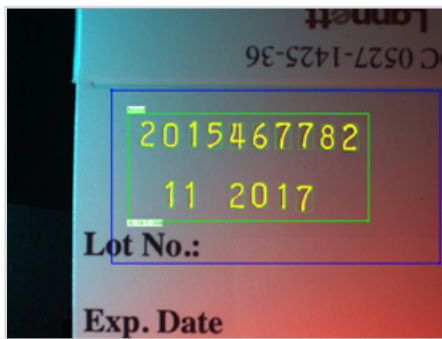
LABELING AND PRINTING INSPECTION

CARTONS

Embossed marking data (OCV)
verification

✓ No detect

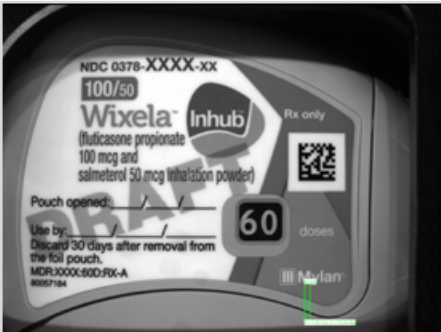
✗ Incomplete embossed number



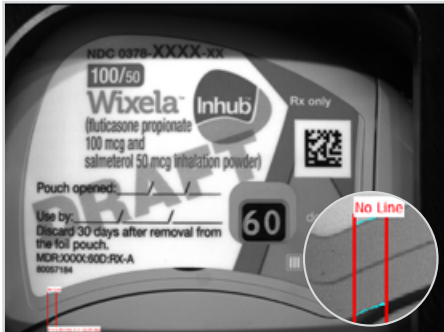
MEDICAL INHALERS

Label position verification

✔ No detect



✗ Wrong position



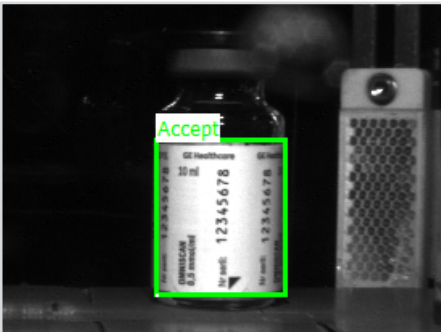
✗ Wrong position



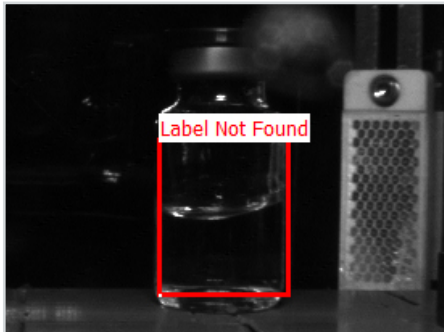
VIALS

Label presence verification

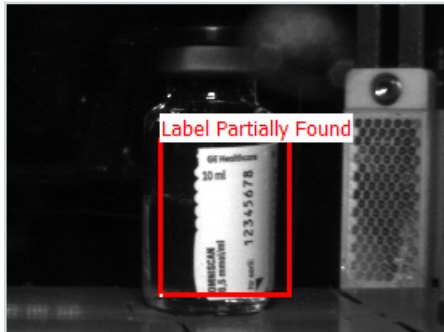
✔ No detect



✗ Label not found



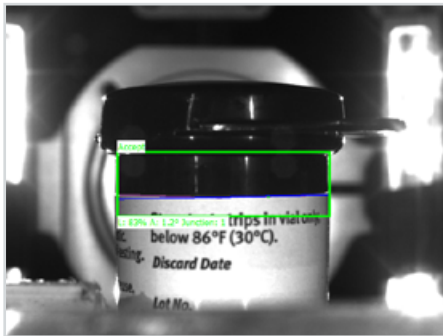
✗ Label partially found



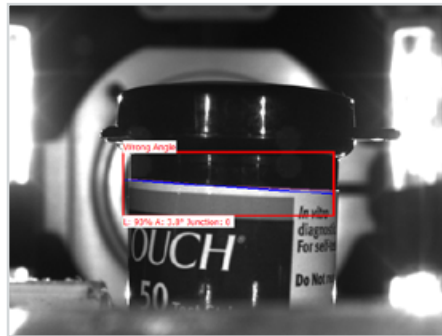
BOTTLES

Label position and presence verification

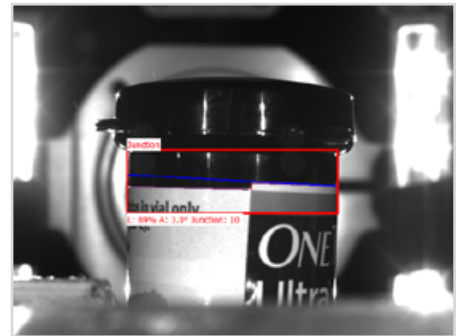
✓ No detect



✗ Wrong angle



✗ Wrong junction



LABELS

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

OK

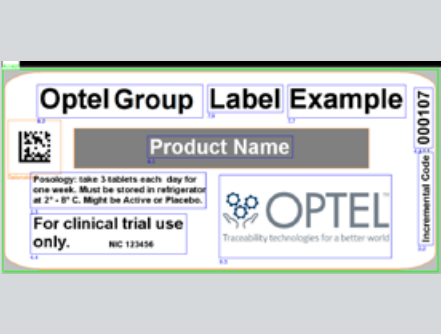


Stain

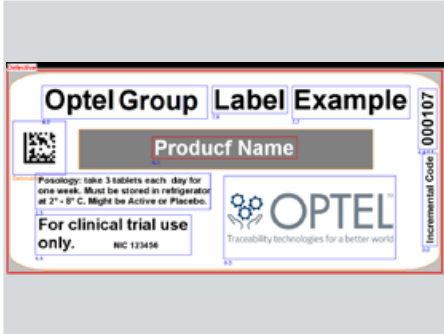


OCV/OCR, Data Matrix, logo and **print quality** verification

OK



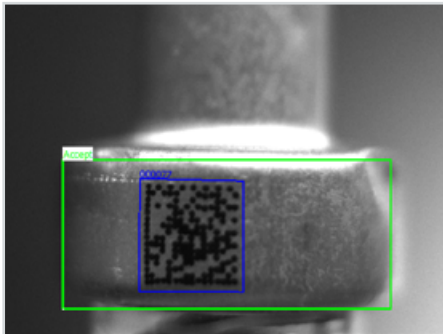
Misspelled word



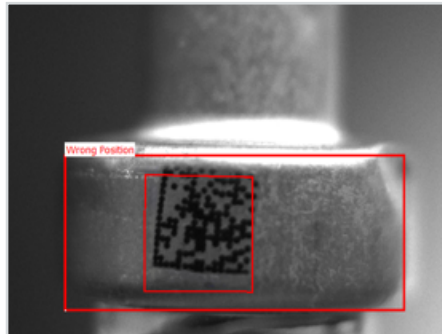
BOTTLES

Data Matrix validation, and **crimp position** and **integrity** verification

✓ OK



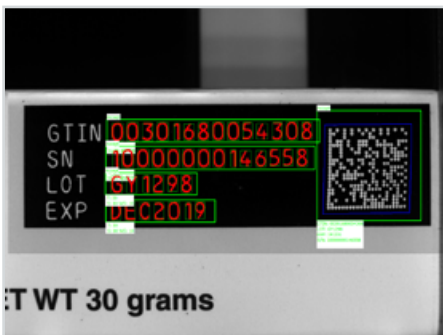
✗ Wrong position



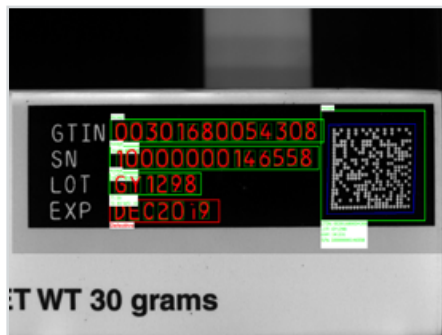
CARTONS

Data Matrix validation and **variable data** verification

✓ OK

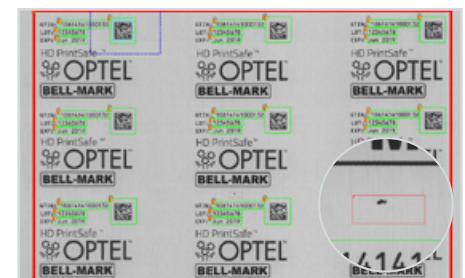
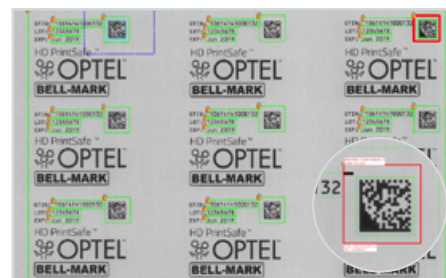


✗ Defect



LARGE LABEL WEBS

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



KIT INSPECTION

KIT CASES

Component count verification

✓ OK



✗ Component is present, but in the wrong position



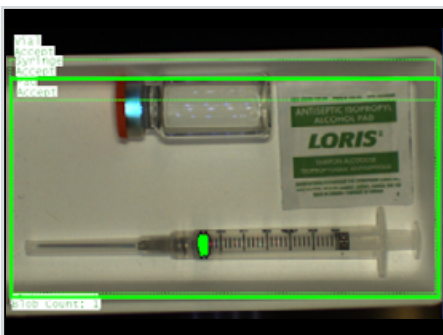
✗ Missing item



MEDICAL TRAYS

Component count verification

✓ OK



✗ Missing component





CONTACT US
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