Why You Should Consider Machine Vision and AI-Based Technology for Meat or Poultry Inspection

Meat and poultry processors work hard to maintain their brand image. Delivery of high quality products is driven both by consumers and regulatory agencies. For these reasons, meat processors take great pains to perform end-to-end inspections; from checking quality of incoming meat or poultry from the farms, to ensuring case packs of finished product are properly closed and labeled, and at various steps in-between. Many meat processors still rely on manual inspection, which can present business challenges:

- **Availability of trained labor** to keep up with throughput
- Using that labor in the **most efficient manner**
- Mundane inspection tasks lead to **inconsistent results**
- **Increased costs** associated with constant quality inspector training due to high turnover
- **Enduring chargebacks** from returned low quality product
- **Potential damage to brand reputation** from consumer dissatisfaction and recalls

Quality checklist

Several challenging quality checks go into producing high quality meat and poultry products including:

- ❏ Incorrect color
- ❏ Too much fat or inconsistent product appearance?
- ❏ Production yields
- ❏ Seal inspection, presence of tray liners (absorbent pads)
- ❏ Proper counts in bagged frozen meat or poultry pieces
- ❏ Allergen concerns (by-product of mislabeling)
- ❏ Verifying the correct label is used for appropriate cut of meat?
- ❏ Consistent size for prepared portions? (leads to over or under cooking)
- ❏ Efficiency and quality of palletizing case product for distribution
- ❏ Availability of labor required to maintain throughput to keep up with demand

If you are concerned about any of the above quality criteria and conducting manual inspections, then automating your inspection processes could bring **increased line efficiency, improved labor utilization, higher quality products, and less recalls.**
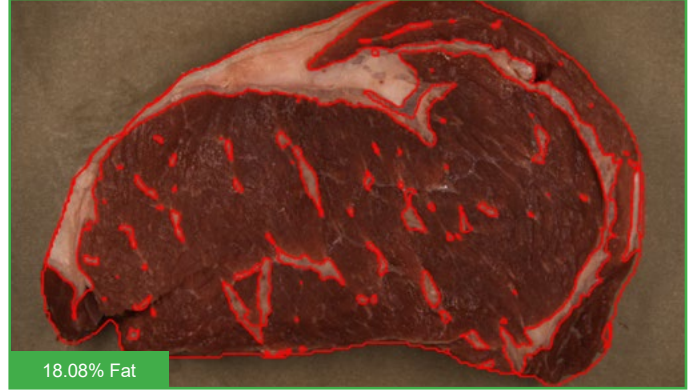
Key examples

Here are some examples of applications where Cognex machine vision or AI-based technology can be used to automate your meat or poultry inspection processes:
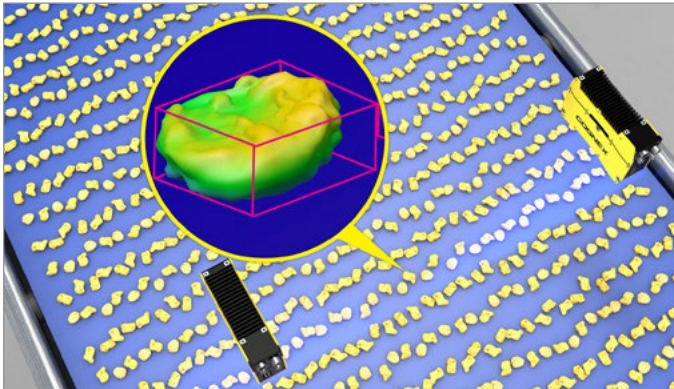
Chicken or turkey inspection/grading

Identify missing legs or wings, inspect for tearing and bruising, and inspect color.
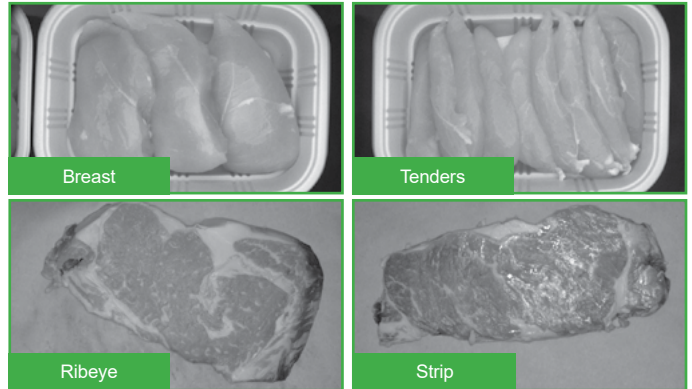
Beef or pork inspection

Inspect color and calculate fat to meat content.
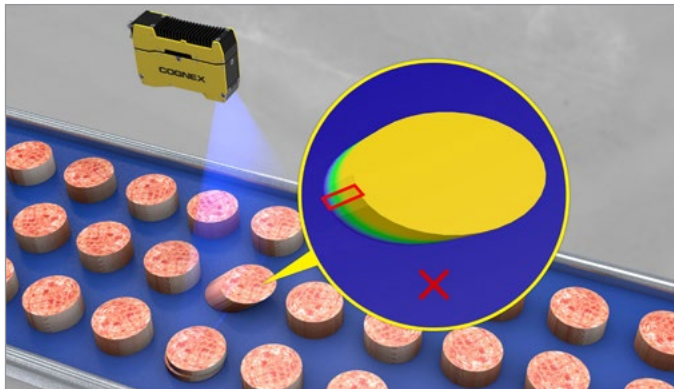
Volumizing Meat for Cooking Prior to Packaging

Ensure product meets size and dimension requirements and data tendering of volume to ensure even cooking process.
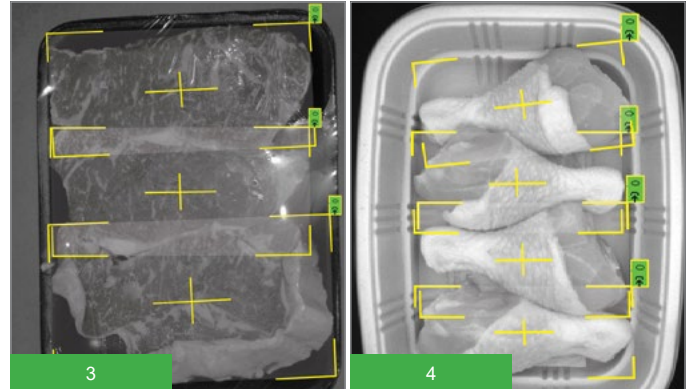
Classifying Meat for Sortation

Identify and classify cuts of poultry or beef.
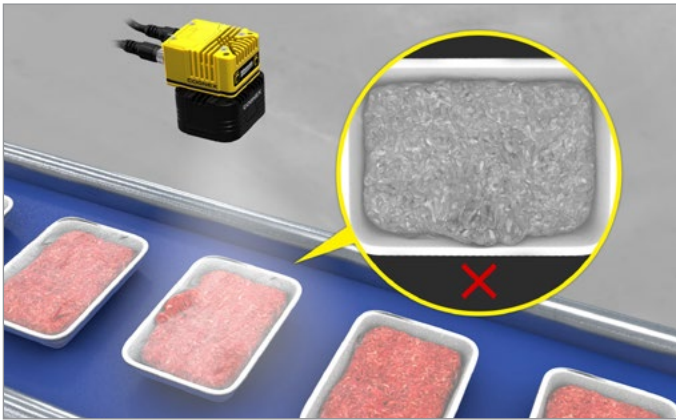
Lunchmeat Slicing Inspection

Ensure meat isn't ripped or torn, and verify the stack is straight.
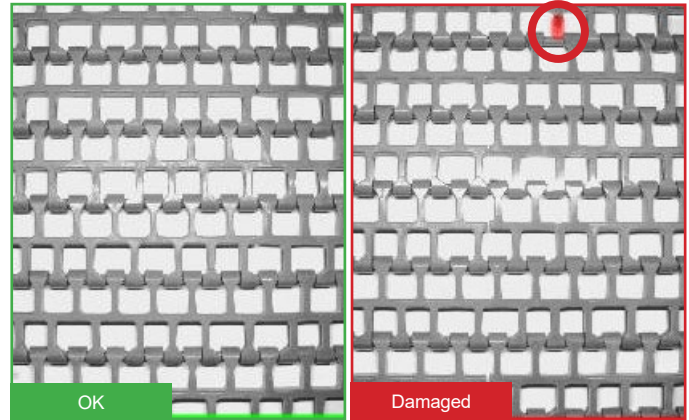
Counting Meat in Tray

Count items in trays or clear bags.

Seal and Label Inspection

Prevent leaks, inspect for contaminants, inspect absorbent pad, and verify label correctness.

Conveyor Belt Inspection
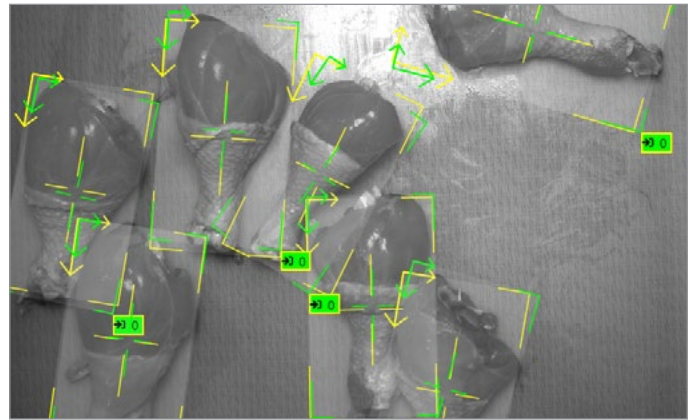

OK

Damaged

Reduce the risk of food contamination due to undetected broken belt links and implement predictive maintenance through continuous visual belt inspection.

Palletizing Product Boxes

Date 08-31-2023
Lot F9381ZWS

Ensure box flaps are closed, scan barcodes, and read date/lot codes using optical character recognition (OCR).

Robotic Pick and Place of Meat/Poultry Products

Identify meat on conveyor, classify good or bad items, and locate coordinates for robotic picking.

COGNEX

Companies around the world rely on Cognex vision and barcode reading solutions to optimize quality, drive down costs and control traceability.

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