

## AI-POWERED FOREIGN MATERIAL DETECTION SYSTEM

### Advanced Artificial Intelligence Built to Fortify Food Production Processes & Protect Consumers

#### OVERVIEW

The SiftAI® FM System enables artificial intelligence inspection capabilities for food production environments, including those with strict sanitary conditions. SiftAI FM is a complementary system to traditional foreign material detection technologies like X-rays and metal detectors. Each system is integrated into existing processes to detect foreign objects in free-flowing product, especially traditionally challenging materials like:

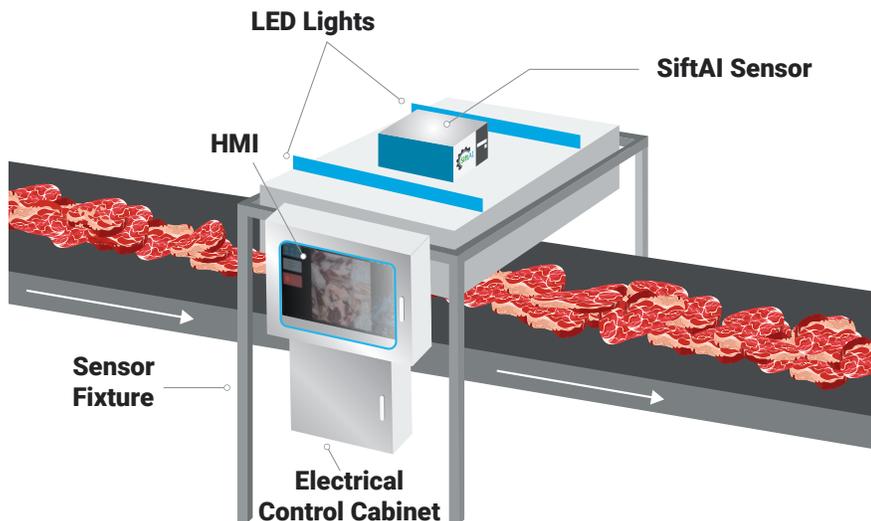
- Plastic
- Films
- Paper/cardboard
- Rubber
- Wood
- Uniform/PPE Fragments
- Indigenous material (Fat & sinew clumps, ear tags or ID chips), and much more

#### APPLICATIONS FOR SIFTAI ARTIFICIAL INTELLIGENCE

The SiftAI FM is a compact vision system that houses a high-performance camera, a computer, an AI accelerator, and industrial controls. Installed directly over processing lines, SiftAI technologies identify harmful foreign materials, product defects, and quality control issues in real-time. Typical SiftAI food production applications include:

- Beef, pork, and poultry processing
- Fish, shellfish, and seafood processing
- Snack foods
- Whole fruits & vegetables
- Individual quick frozen (IQF) ingredients (diced potatoes, fruits, vegetables, and protein products)

#### TYPICAL SIFTAI SYSTEM CONFIGURATION **Example:** Beef trim line



#### SIFTAI FM SYSTEM FEATURES

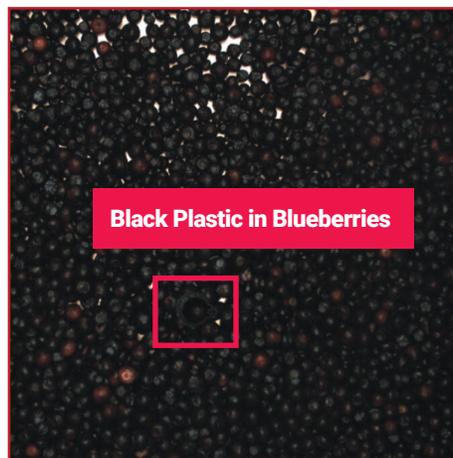
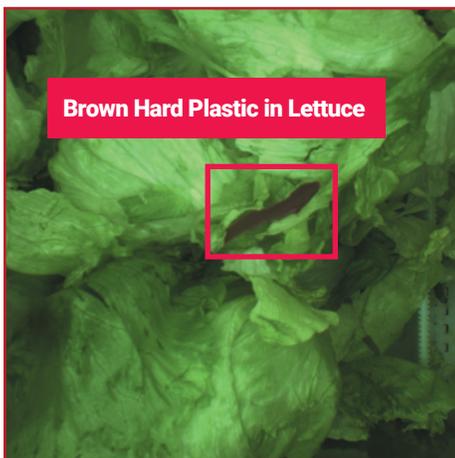
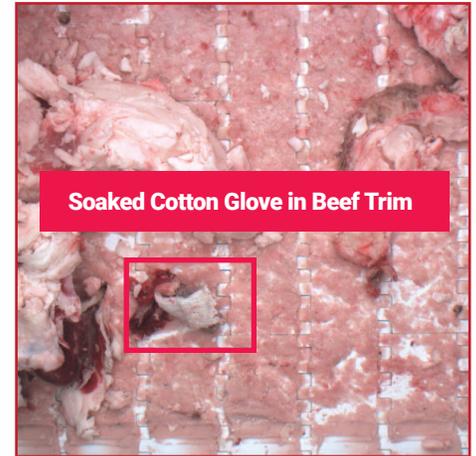
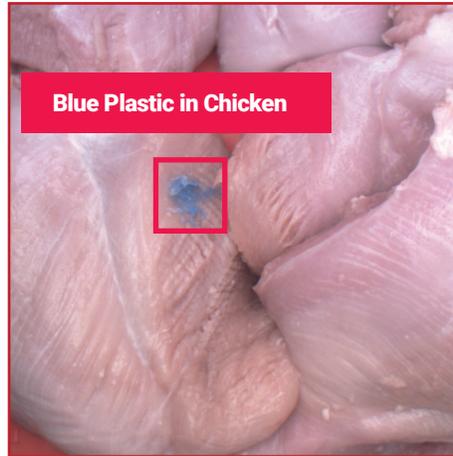
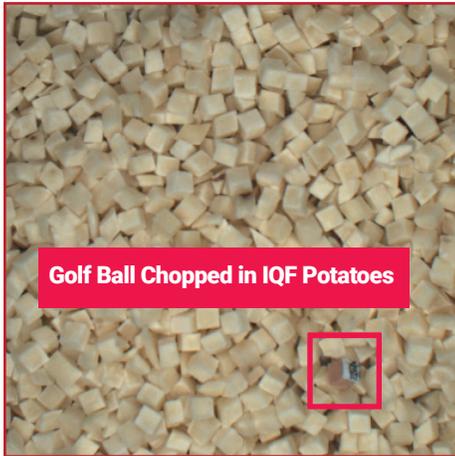
- Proven AI models and machine learning ensure food safety and accurate product grading.
- Accurately inspects products with natural and organic variation.
- Dual-gasket IP69K-rated stainless steel enclosure for full wash down sanitary production environments.
- System software generates real-time data for operator and QA review.
- Operates on 120V or 240V power.

#### SIFTAI FM SYSTEM BENEFITS

- **Built for sanitary processing environments:** Enable AI-powered inspection without adjusting cleaning procedures.
- **Identify challenging foreign materials:** Accurately detects visible high- and low-density objects like plastic, cardboard, rubber, wood, indigenous materials, and objects that are typically challenging for other detection methods.
- **Improved product quality and yield:** Allows processors to operate at higher throughput and detection accuracy compared to human-only inspection.

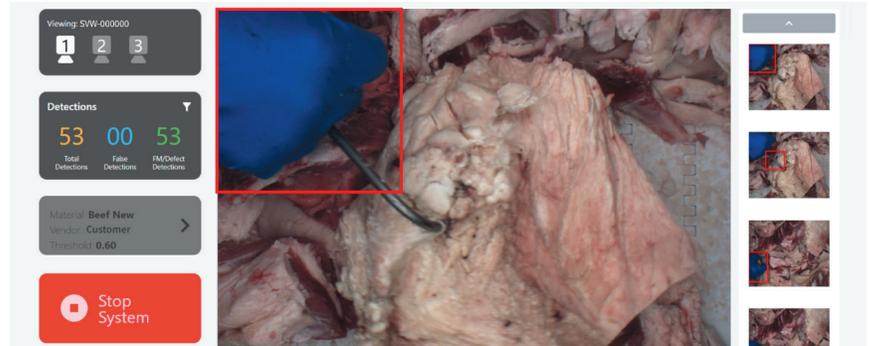
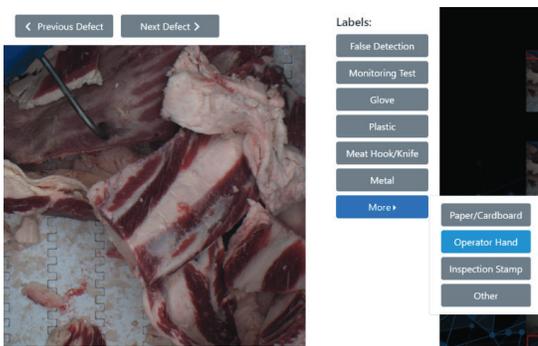
## IF YOU CAN SEE IT, SIFTAI WILL FIND IT

The SiftAI<sup>®</sup> FM system is a powerful machine vision platform that offers superior vision inspection. It leverages proprietary software to train and operate artificial intelligence models for any product. A system can be configured to utilize existing or KPM-designed rejection mechanisms.



## SIMPLE SOFTWARE INTERFACE & REPORTING CAPABILITIES

Operators can watch a real-time stream of production. Additionally, operations can review historical data of detections.

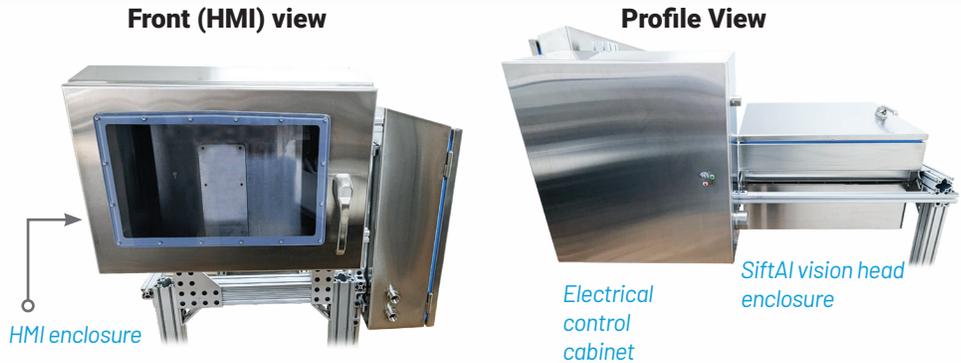


Users can review a complete log of foreign materials detected with the capability to drill down specific defect types.

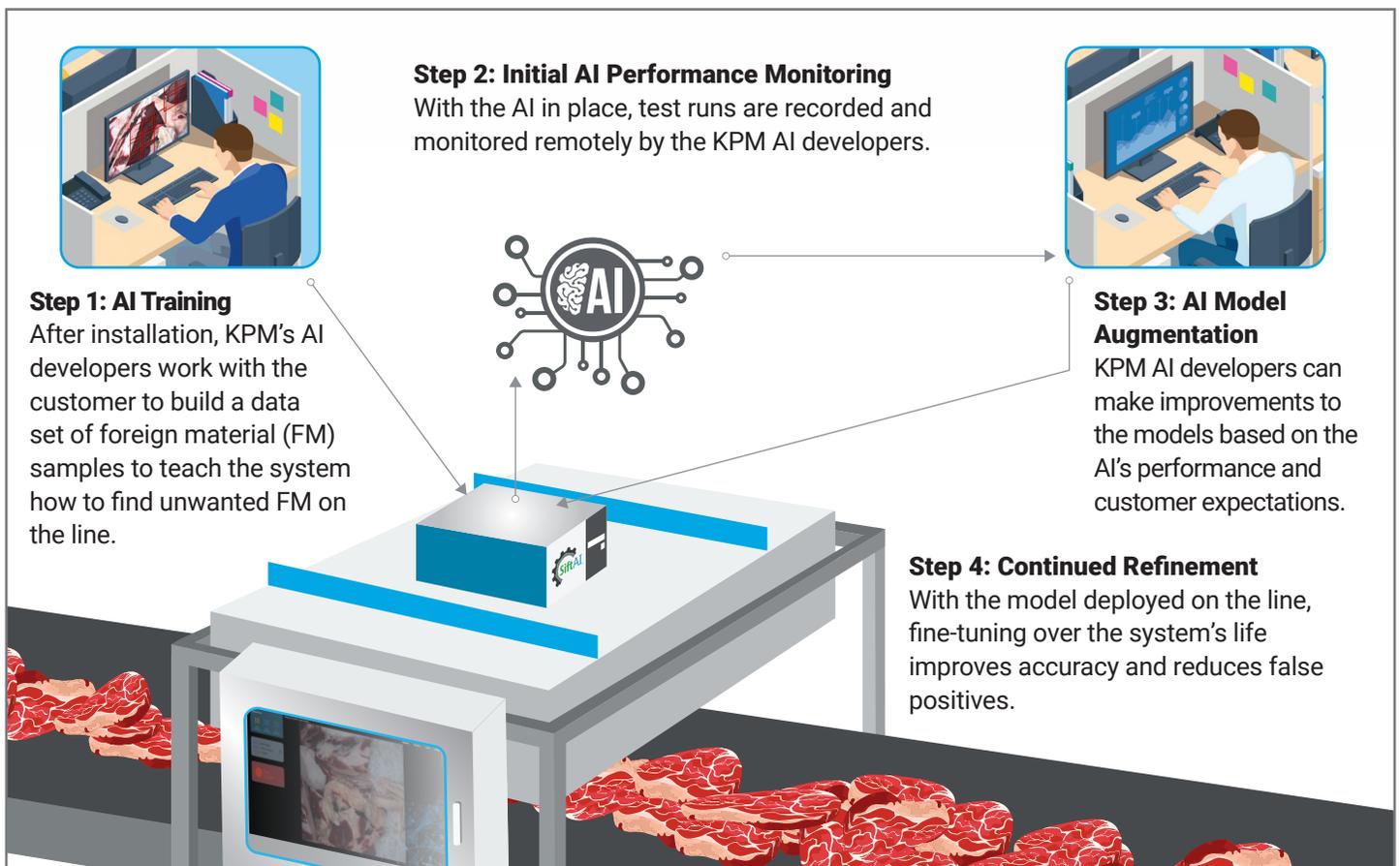
Apply the appropriate foreign material label at-line via the operator interface (operator hand with meat hook shown here).

## FOOD GRADE SANITARY DESIGN

SiftAI FM is enclosed in an IP69K-rated design for use in protein, seafood, and other food processes with strict sanitary requirements and harsh manufacturing environments. The fully enclosed unit features a durable structure made of food-grade stainless steel and hard-coated polycarbonate. The system is hygienically designed to prevent harborage making it ideal for full wash down.



## UNIQUE AI MODEL DEVELOPMENT & DEPLOYMENT

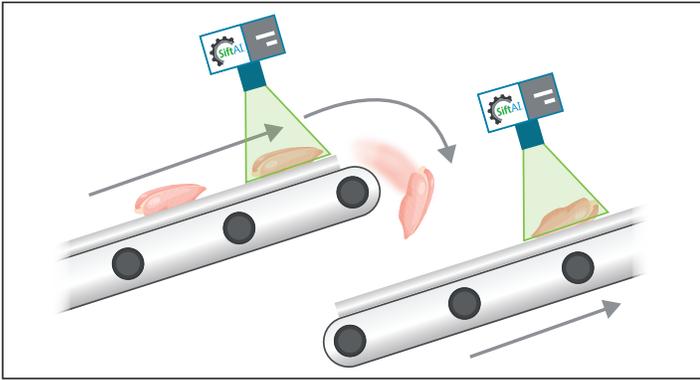


## ONLINE SUPPORT

The Software as a Service (SaaS) is a yearly subscription service that includes regular software, security, and AI model updates. This provides customers with the most up-to-date technology for high accuracy and precision. KPM support engineers can access customer systems remotely to send routine updates and help answer any questions that arise.

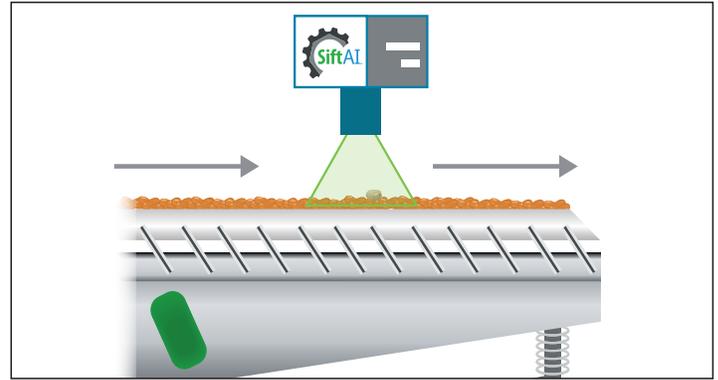
## TYPICAL INSTALLATIONS

All SiftAI FM installations are customized to the needs of the operation. Some of the more common examples include:



### Waterfall Analysis

Allows for inspection of both the top and bottom of products while minimizing footprint on the line.



### Shaker Table Analysis

Top-down inspection allows for accurate inspection of free-flowing materials.

## INSTALLATION CONSIDERATIONS

The SiftAI FM System can be mounted over production lines requiring detection of foreign material (FM) and product defects.

- **System footprint:** Dependent on the width of install location.

Belt Width	Total System Width
305 mm (12 in) belt	413 mm (16.25 in) wide
610-762 mm (24-30 in) belt	870 mm (34.25 in) wide
1219 mm (48 in) belt	1327 mm (52.25 in) wide

**Installation height:** The SiftAI camera enclosure should be mounted approximately 508 mm (20 in) above the belt.

**Note:** An overhead clearance of 127 mm (5 in) or greater than the system's total width is required for proper maintenance access and operation.

## SPECIFICATIONS

<b>Dimensions</b>	Customizable depending on belt width
<b>Operating Temperature</b>	Between 0-43° C (32-100° F)
<b>Acceptable Sanitation Chemicals</b>	EnviroKlor Plus, Acidiquat 4, Redi-Solve B, One Step Alkali, Decon-7, and more
<b>Power Requirements</b>	120V or 240V
<b>Network Connection</b>	Ethernet; minimum internet connection speed of 50 Mbps
<b>IP Rating</b>	IP69K

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