



WE CRAFT ASSURANCE

**INSPECTION SOLUTIONS FOR
MEAT & POULTRY PROCESS CONTROL**





WE CRAFT ASSURANCE. For Our Partners, For Their Customers.

Founded in 2015 and comprised of nine strong product brands, KPM Analytics is a global leader in analytical instrumentation, inspection systems, and machinery, that enable companies to effectively manage product quality and brand value. Through long partnerships with global blue-chip companies in the industry, we focus on serving craftspeople in the food, agriculture, and environmental sectors, offering a comprehensive range of products and services to analyze critical parameters in their processes and solve their unique challenges. As a partner, we provide key metrics and intelligence to reduce waste and costs, increase energy efficiency, improve quality, and help companies protect their brands.

OUR PURPOSE

We provide premium quality assurance equipment for food producers, environmental researchers, industrial manufacturers, and others through expert craftsmanship and intimate knowledge of their business needs.

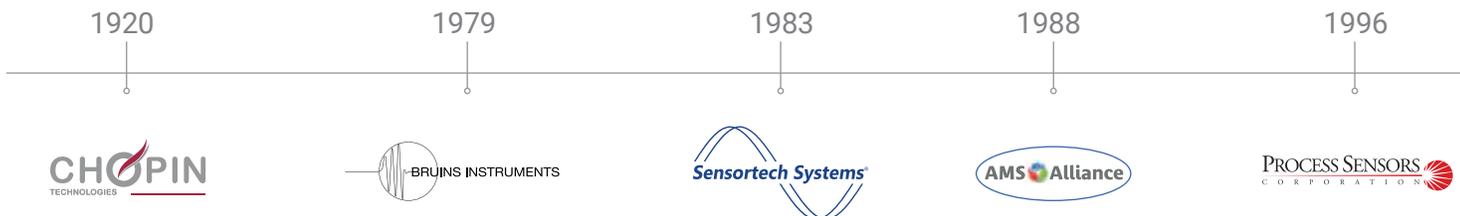
OUR VISION

Our partners all over the world will grow stronger from our driven, dedicated, and caring approach to solving their challenges, enabling KPM to become the global industry leader.

OUR MISSION

We provide the best solutions to help our partners control their product quality, scale capacity, and protect their brands.

NINE STRONG BRANDS SPANNING OVER 100 YEARS IN QUALITY ASSURANCE



Enhancing the Quality & Food Safety Efforts of Today's Meat & Poultry Processors

Facing growing consumer demands and labor retention challenges, today's meat and poultry processor or slaughterhouse manager has much to manage. Diverse types of meat processing applications, from nugget breasting to marinades, steak cuts to ground meat, and anything in between, can benefit from enhanced methods to inspect products, control their quality, and manage the overall safety of an operation.

This is where KPM Analytics comes in. Offering a host of inspection, product sorting, and foreign material detection solutions to help meat and poultry processors measure and control quality where it matters, there are several ways today's processors can benefit from our technological solutions. Such benefits include:

- **Enhanced Product Quality:** Achieve consistency across batches, shifts, and production sites; crucial for customer satisfaction and brand protection.
- **Improved Efficiency:** Enable faster, objective decision-making on the production line, leading to more efficient manufacturing processes and fewer errors.
- **Strengthened Food Safety Programs:** Immediately identify and remove harmful foreign materials, defective products, and other variables from your process that will lead to consumer complaints and product recalls.
- **Cost & Waste Reduction:** Reduce labor costs and wasted products due to poor processing, inattentiveness, and other causes.
- **Data-driven Management:** Enhance operational transparency with streamlined reporting that supports process improvements and feedback control and aligns with Industry 4.0 standards.
- **Innovation in R&D:** Assists in product development and quality control spot checks, driving innovations to meet growing consumer demands.
- **Animal Welfare:** Automation that meets regulatory requirements for proper treatment of animals.



1999



2001



2009



2012

SMARTVISIONWORKS

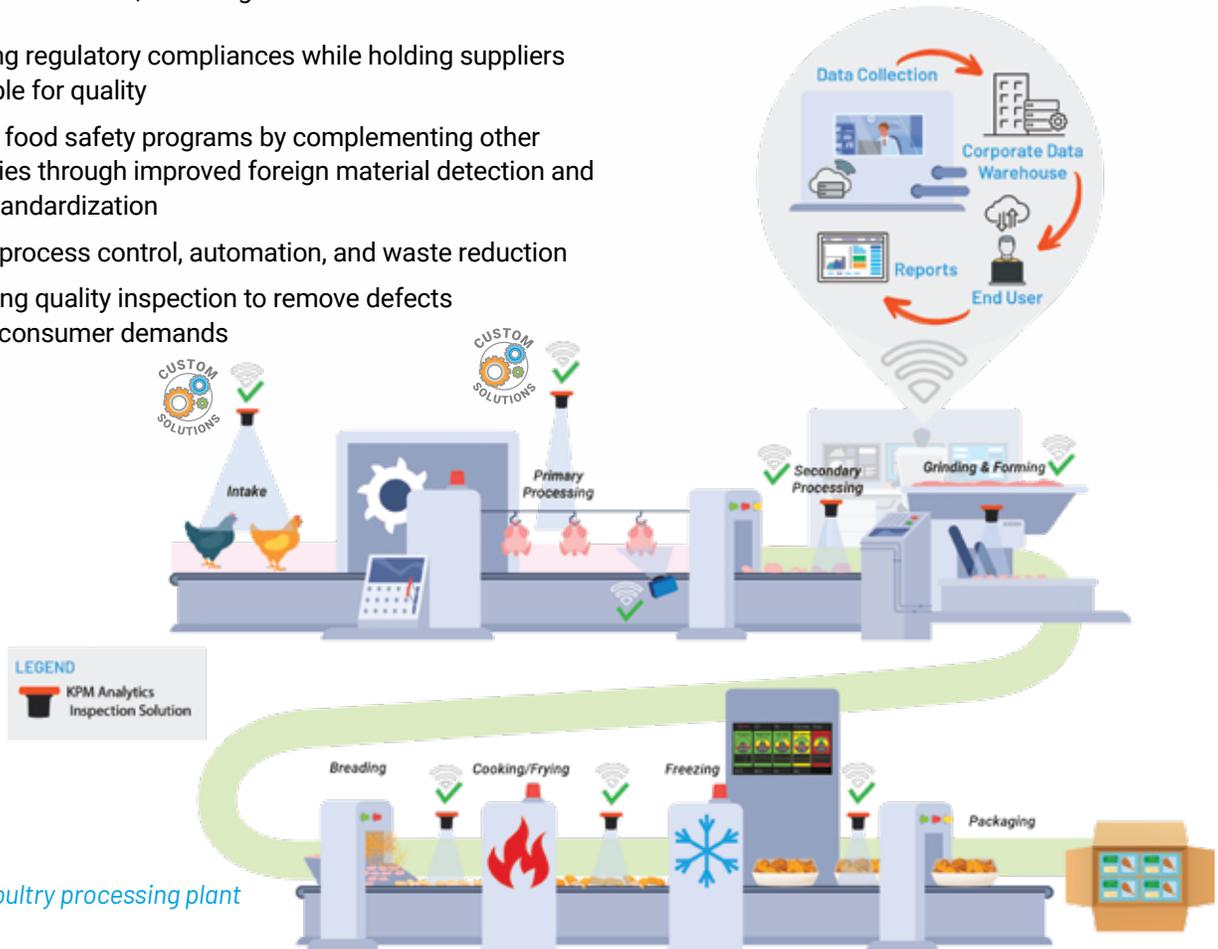
2015



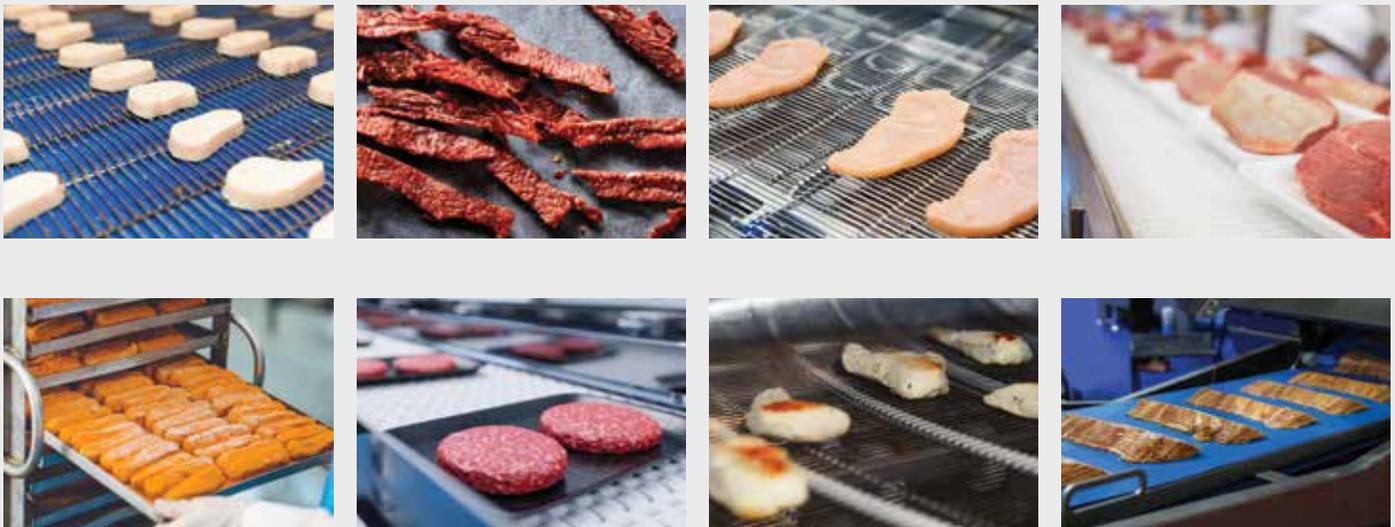
Measure Food Quality and Safety Where it Matters

KPM Analytics inspection technologies provide value throughout the production process and supply chain. Each system is tailored to the specific needs of an operation, creating robust, trustworthy applications that amplify productivity and satisfy business demands, including:

- Maintaining regulatory compliances while holding suppliers accountable for quality
- Improving food safety programs by complementing other technologies through improved foreign material detection and product standardization
- Fortifying process control, automation, and waste reduction
- Streamlining quality inspection to remove defects and meet consumer demands



CONFIGURABLE SOLUTIONS FOR WHOLE, PORTIONED, BULK FLOW, AND PROCESSED PROTEIN PRODUCTS



The Power of KPM Analytics Vision Inspection Technology

From controlling the consistency of a product's size and shape to provide in-depth analysis on visual appearance, vision inspection and AI technologies from KPM Analytics help companies obtain critical information to enhance product quality.



CALIBRATED, REAL-WORLD MEASUREMENTS

- 2D size, shape, color, 3D height, volume
- Top, bottom, side inspection



MULTI/HYPER-SPECTRAL IMAGING

- Inspect beyond the visible spectrum (moisture, fat, and other compositional parameters)
- Detect challenging foreign materials found on the product surface



FACTORY-READY SOLUTIONS

- Integrate robotics or automatic rejections with AI powered vision systems for product handling, food production, and quality control
- Allow companies to address labor challenges or redistribute labor where it is needed elsewhere in the plant.
- Integrated conveyor and product rejection



ARTIFICIAL INTELLIGENCE

- Train your system to sort and grade food products with remarkable consistency
- Enhance traditional vision for production with the ability to detect more appearance variations

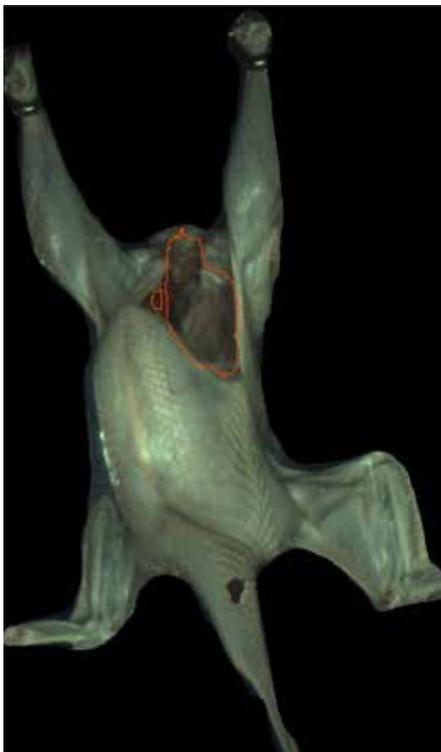
The Power Artificial Intelligence Brings to Meat and Poultry Processing

KPM Analytics AI technologies apply human-defined models to master quality control and detect harmful foreign materials from your process. AI amplifies traditional vision inspection by pushing its capabilities to higher levels.

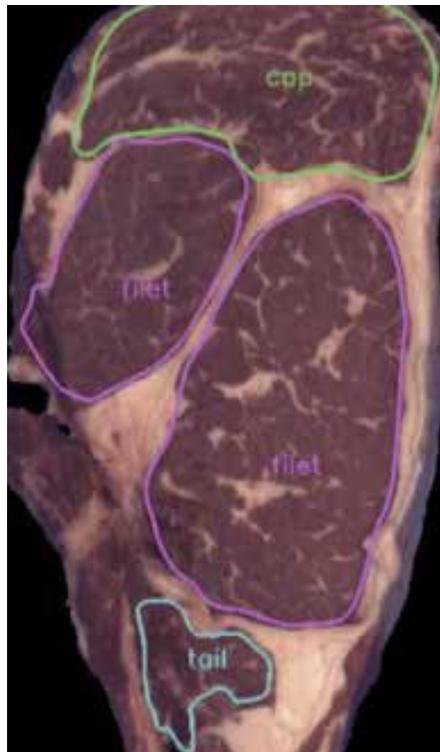
- KPM Analytics builds managed models, trained by human observation, it provides enhanced matter recognition and object separation capabilities to rule-based vision systems.
- AI improves the reliability of analysis when the color of the product is similar to its background, helping eliminate false detections and improve accuracy.
- AI adds advanced capabilities to assess product texture, shape, and other vital details.

AI performs three core functions in meat & poultry processing applications:

- **Foreign material or defect detection:** Searching images for expected or unexpected objects and features that impact product quality or food safety.
- **Automated product quality inspection:** Defines product and feature contours indicating product quality while operating at full-line speeds.
- **Product classification:** Quantifies individual product features and traits to the finest detail based on user-defined tolerances (sorting and grading) thereby improving cut identification in chaotic product flow.



Section missing on a chicken heading for processing.



Steak segmented into individual cuts.



Tag found on raw beef trim.

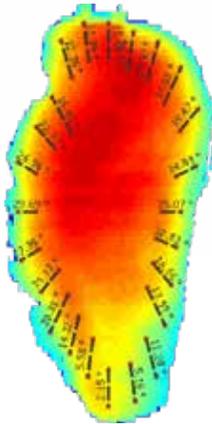
KPM Vision Inspection Technologies for Meat & Poultry

Whether integrated into your process or used to enhance quality checks, KPM Analytics' complete line of vision inspection technologies offers objective measurements and inspection capabilities that make quality control more manageable.

COMMON MEASUREMENTS



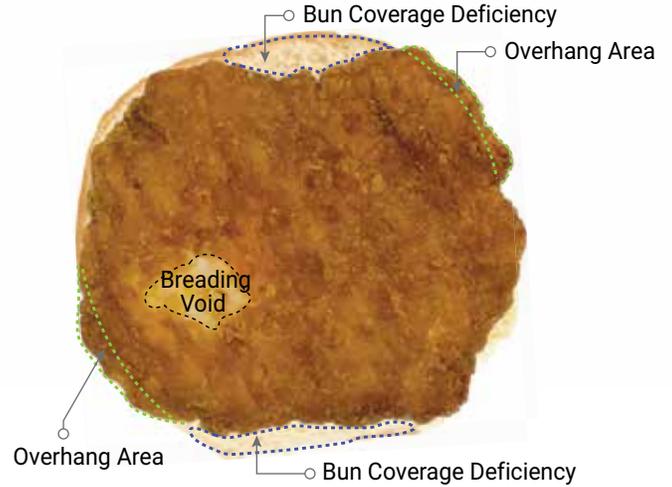
Adaptive Measurements



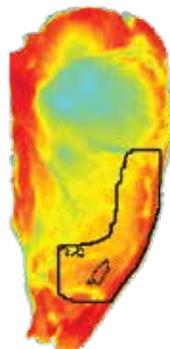
3D Slopes



Breading Void

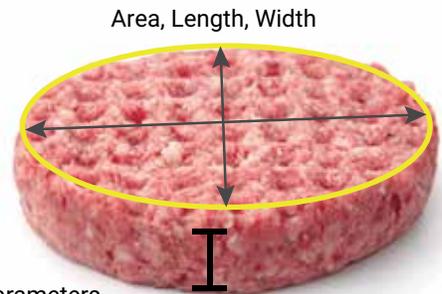


Fat Percentage



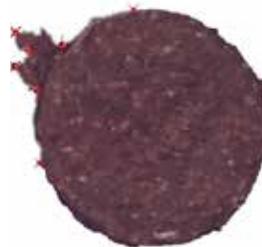
Thickest Region

Diameter/Roundness
• Shape/Edge Defects



Other Quality Parameters
• Fat Percentage
• Predicted Weight

Thickness
• Divots
• Double Stacked
• Cupping
• Slopes



Edge Defects



Double Stacked



IN-LINE VISION INSPECTION TECHNOLOGIES

Achieve 100% inspection of products to ensure quality at every stage of the process.

- Integrate within primary and secondary process stages, as well as for final inspection of prepared foods.
- Designed for strict sanitation requirements in meat and poultry plants, such as IP69K.
- Real-time feedback on quality, generating reports and statistics that help your organization make informed decisions.
- Multi-surface inspection and rejection applications available.

OVER-LINE VISION INSPECTION TECHNOLOGIES

Integrate inspection and foreign material detection capabilities at precise moments of your process while utilizing a small footprint on the production floor.

- Powerful and easy to configure for your unique process.
- Integrates seamlessly over a processing line.
- Great solutions for commissioning new processing equipment or calibrating systems (ovens, fryers, etc.).



AT-LINE VISION INSPECTION TECHNOLOGIES

Assists quality control professionals by obtaining precise and repeatable measurement data to improve their production process.

- Available in wipe-down configurations; can be used in a lab or production area.
- Performs quality checks faster and with better repeatability while creating stronger standards for quality assurance programs.
- Eliminates subjectivity from quality measurements by applying measurements defined for unique product lines.

Where KPM Analytics Vision Inspection Enhances Protein Processing

Vision inspection and AI technologies from KPM Analytics are engineered to withstand the rigors and sanitation protocols of today's meat and poultry processing plants. Automated quality assurance technology represents a transformative step forward for the meat and poultry processing industry, enabling companies to improve product quality, reduce waste, avoid recalls, address labor/training costs, and leverage analytical data to modernize entire organizations.

The following pages cover the core application opportunities for meat and poultry processors to take advantage of vision inspection and AI technologies and conquer everyday business and quality control challenges.



Foreign Material Detection



In-Process Inspection, Sorting, Sizing, and Grading



Regulatory Compliance / Humane Treatment



Data-Driven Decision Making



Related Food Product or Ingredient Inspection

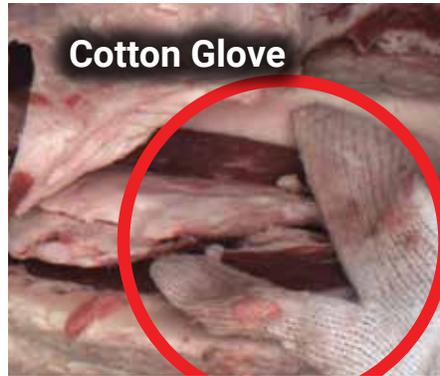
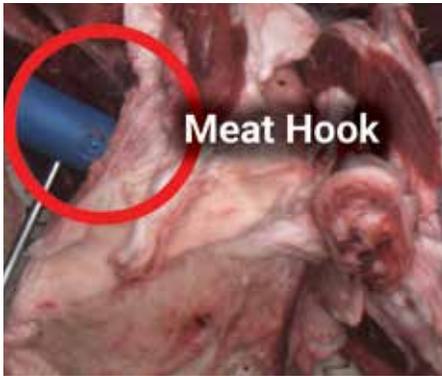


Protein and Fat Analysis

Foreign Material Detection

Product recalls due to unwanted foreign materials entering production can cripple organizations financially and tarnish a brand's perception among consumers. High-precision foreign material detection systems from KPM Analytics help companies fortify their food safety efforts by detecting challenging visible and non-visible foreign materials from a product's surface where other technologies traditionally fall short. Examples include:

VISIBLE FOREIGN MATERIALS



Foreign materials in beef trim (detected by the SiftAI® Foreign Material Detection System)

SOFT FOREIGN MATERIALS

Vision inspection technologies from KPM Analytics are well suited for detecting soft foreign materials that are not detectable through traditional methods (metal detection, X-ray, etc.) from the product's surface at various processing steps, including:

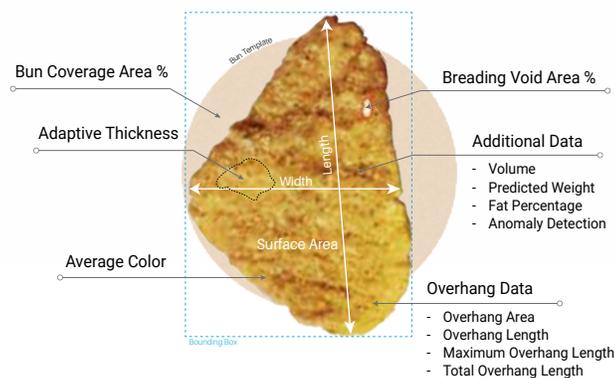
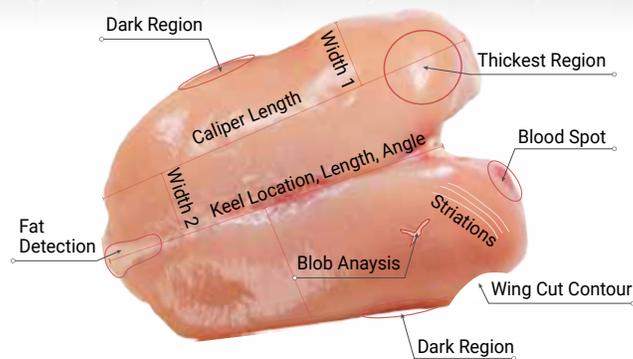
- Plastic
- Paper
- Rubber
- Wood
- Cloth
- Glass
- Bones
- Like-colored or shaped objects



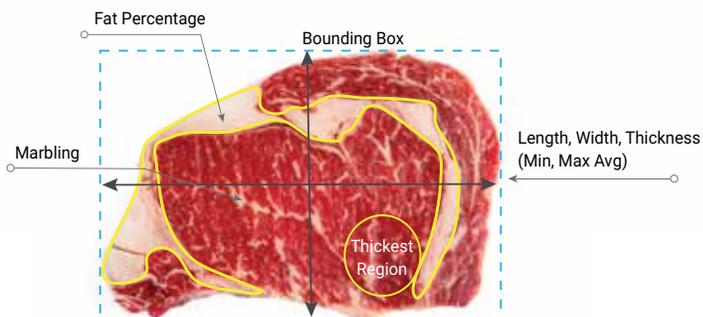
Detected by the P-Series Vision Inspection System

In-Process Inspection, Sorting, Sizing, and Grading

Product quality and value is typically tied to specific features such as size, shape, and visual appearance. Inspection, sorting, and grading solutions from KPM Analytics apply objective measurements to monitor these features and allow plants to optimize value for their products while still meeting customer demands. This includes solutions for raw meat products or finished/processed foods.



Final inspection of formed chicken patties.

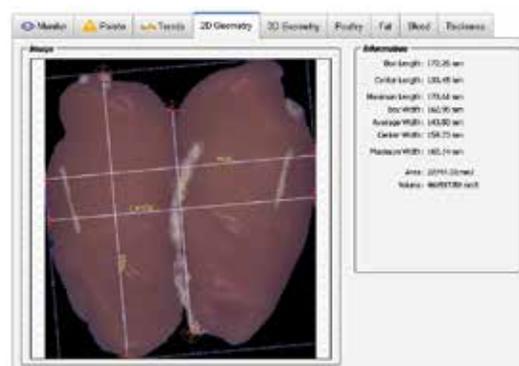


Final inspection of steak cuts.

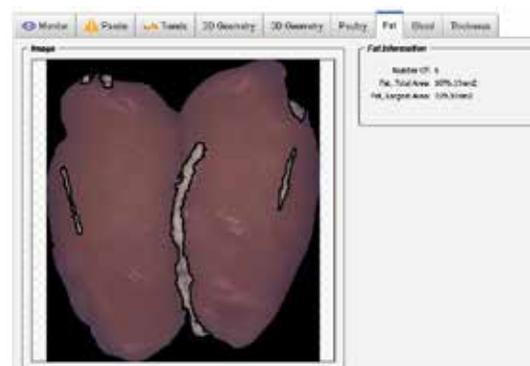
COMMON PRODUCT MEASUREMENTS (Acquired through the *measura*® 4 Software Suite)



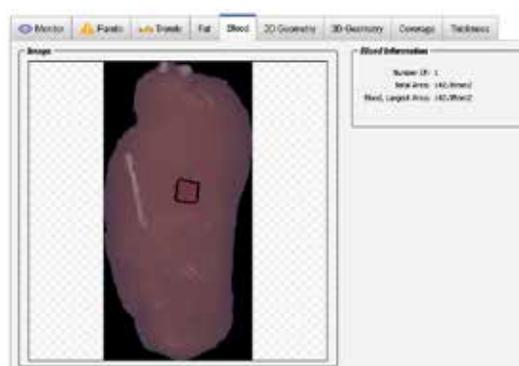
Thickness Analysis



2D Measurements



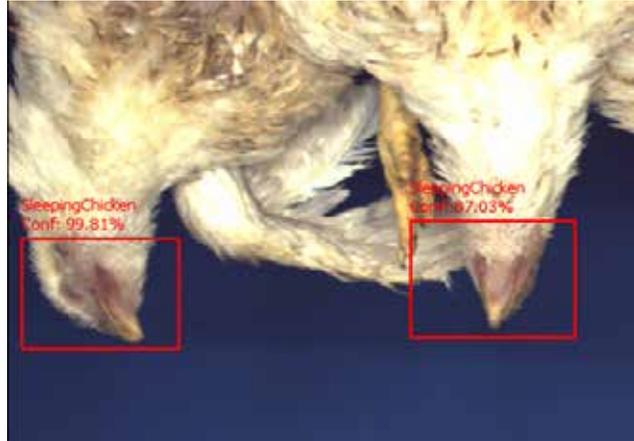
Fat Area Analysis



Blood Spot Detection

Regulatory Compliance / Humane Treatment

Meat and poultry processors – and their suppliers – aim to ensure regulatory standards are always met for treating animals properly. However, despite these efforts, mistakes can happen in high-throughput operations. KPM Analytics inspection solutions add a higher level of protection to hold suppliers accountable on their promise of quality, while also helping to ensure humane practices are maintained throughout the organization.



Identifying missing cut after beheading of chicken to ensure all chickens are processed properly and humanely.

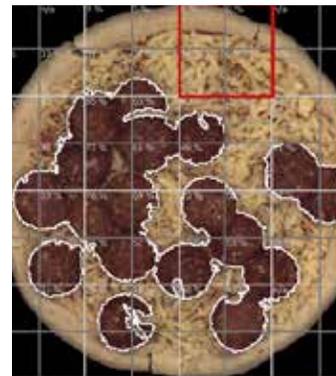


Chicken that needs to be removed from an intake crate before the crate proceeds to washing.

Related Food Product or Ingredient Inspection

Vision inspection technologies from KPM Analytics are not limited to inspecting meat & poultry products and byproducts. We offer a full range of solutions to manage quality and food safety for all food products.

Frozen Pizza or Seafood



Topping coverage



De-shelled clams

Prepared / Frozen Foods



No meatballs in the product.



Noodles in packaging seal.



Onion skins in diced IQF onions.

Fat and Protein Analysis

Ground meat and poultry products are packaged and sold based on the lean point ratio as well as the availability of protein. Moisture content is also an important factor in the packaging of raw or processed meat products. With the help of near-infrared (NIR) analysis technologies, many companies have found success to control these important parameters at various stages of the production process or in at-line/lab settings.

IN-LINE LEAN-TO-FAT RATIO CONTROL

MCT569 Washdown NIR Analyzer

IP69-rated NIR analyzer designed for use in food processing environments with strict sanitary requirements.

- Accurate fat and moisture analysis of ground meat and poultry products.
- Closes the feedback loop between the meat and fat feeder, ensuring product achieves the proper ratio.



The MCT569 analyzer is positioned over a bulk meat processing line to validate in real-time the lean-to-fat ratio of ground product.



AT-LINE FAT AND PROTEIN ANALYSIS

SpectraStar™ XT-R Benchtop NIR Analyzer

Easy-to-use ground meat and poultry sample analysis for fat, protein, and moisture.

- Obtain vital quality parameter data in about 30 seconds, enabling quick response for quality control.
- Make quick decisions and adjustments to the production.
- Minimal sample preparation required.

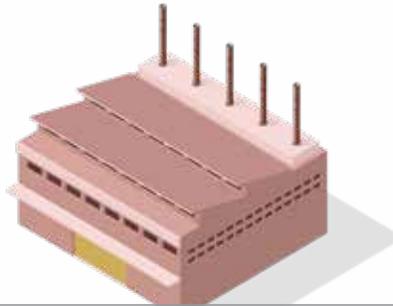
Data-Driven Decision Making

Vision inspection and AI technologies collect objective product measurements and objective process metrics, helping companies establish and continually elevate standards for quality. The data collected from these technologies support the efforts of various groups within an organization, including:



FLOOR LEVEL

- Enable operators on the processing floor to make quick decisions on quality and safety.
- Identify consistency issues with ingredient quality (e.g., replacing fryer oil).
- Address performance issues with manufacturing equipment.



PLANT LEVEL

- Determine root causes to process issues and formulate plans for improvement.
- Gauge employee performance.
- Compare performance trends across multiple process lines.

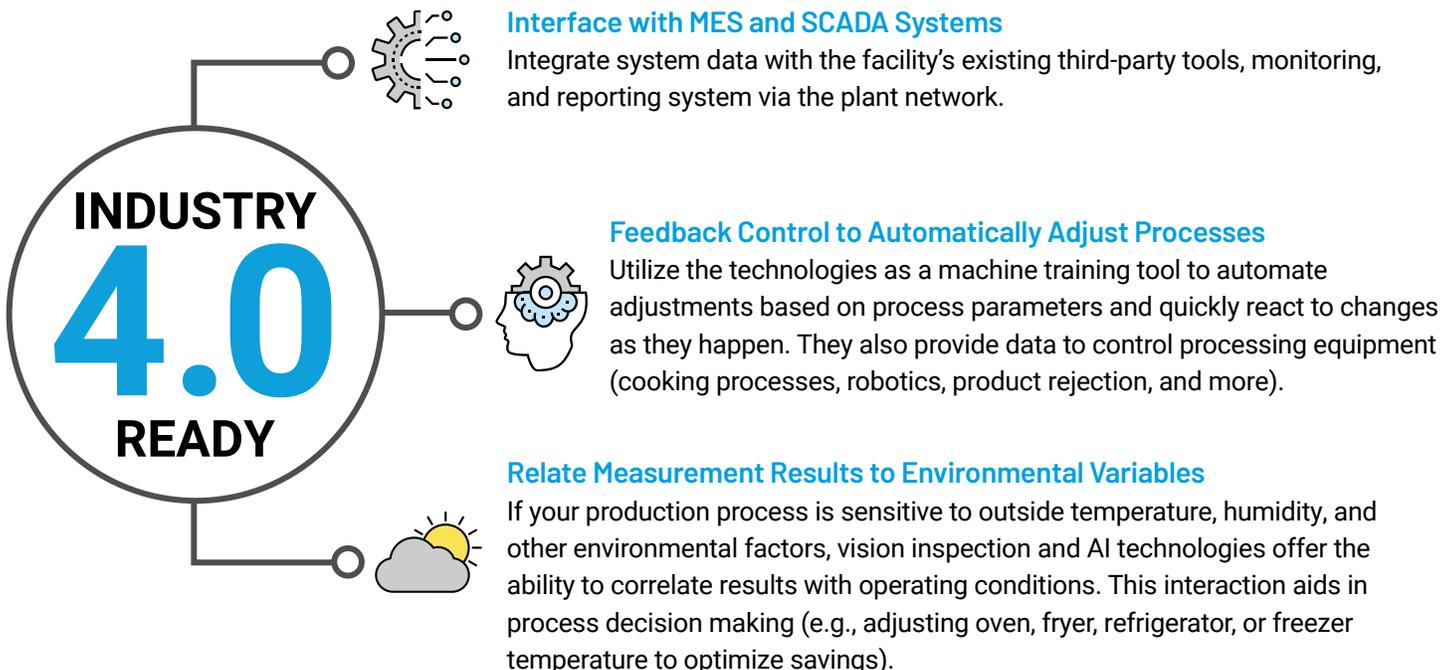


CORPORATE LEVEL

- Analyze performance trends company-wide, aiding in the decision to invest resources to correct global challenges.
- Develop and deploy higher standards for product consistency company-wide.

DATA INTEGRATION

KPM Analytics vision inspection and AI technologies integrate seamlessly with existing quality control platforms to support Industry 4.0 efforts.



Committed to Keeping Your Operation Seamless, from Start to Finish

At KPM Analytics, our focus is to provide your organization with end-to-end support through our highly skilled customer service teams and worldwide network of distributor partners. Each instrument and application are matched with specific support offerings to get the most out of your investment, including:



Field Service Commissioning & Training

- KPM's team of qualified service engineers offer professional guidance and expertise to ensure a seamless process.



Remote Commissioning

- For some instruments, remote commissioning provides a simpler, cost-effective method to ready your KPM technology for use.



Remote Support & Troubleshooting

- To minimize downtime, remote support from KPM is available to help companies quickly correct issues and save costs.



Annual Calibration & Preventive Maintenance

- KPM offers various annual services (in field & depot) to ensure equipment is running at factory standards.



Depot Repair at Global Service Centers

- For issues that cannot be addressed on-site or remotely, our worldwide Depot network is available to quickly inspect, repair, and return your equipment in a timely manner.



Training Collateral

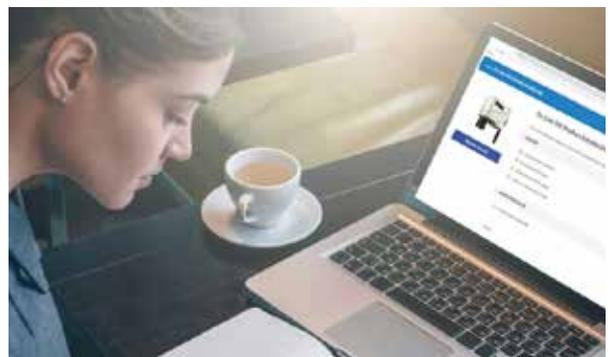
- From “Best Practice” recommendations to quick startup and maintenance guides, KPM provides customers with the tools they need to succeed.



ON-DEMAND COURSES FOR KPM PRODUCT BRANDS

The KPM Academy is an online education platform that provides product training and maintenance support for our broad range of analysis solutions. Your KPM Academy license includes:

- Product training from the experts
- Staff training for new-hires or cross-training employees
- Refresher training
- Procedure updates, including preventive maintenance
- Courses on-demand



OUR GLOBAL SERVICE AND SUPPORT NETWORK



Working with KPM means you have a partner for the life of your equipment and beyond. Let's discuss how we can help you solve production challenges and protect your brand value.

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