

measura[®] 4 Software Suite

POWERFUL, INTUITIVE SOFTWARE FOR VISION INSPECTION OF PROTEIN PRODUCTS



Comprehensive Inspection Analysis & Data Management for In-Line & At-Line Users

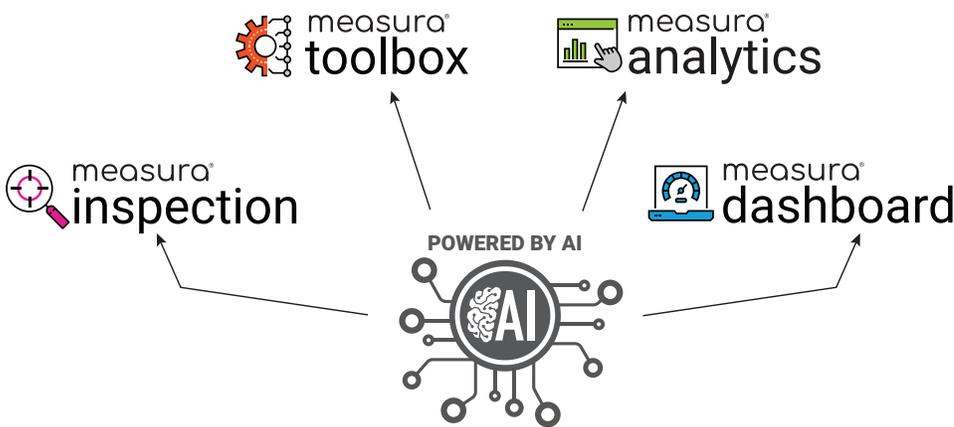
OVERVIEW

The measura[®] 4 software suite is a leading-edge analytical software for simplifying inspection processes. The software suite includes advanced features developed from user feedback, culminating in an intuitive user interface that drives process improvements and food safety efforts.

From creating new product measurements to inspecting product features in real-time and for quality analysis or process monitoring, measura[®] 4 is more than just vision inspection software—it is an essential contributor to a modern quality control system.



THE FOUR COMPONENTS OF THE MEASURA[®] 4 SOFTWARE SUITE



measura[®]
SOFTWARE SOLUTIONS

MEASURA[®] SOFTWARE FEATURES

- **Powerful and Versatile:** measura[®] 4 supports all vision products including in-line, over-line, and benchtop.
- **Large and Growing Product Library:** Developed from decades of product measurements.
- **Ease of Use:** Available in multiple user modes to simplify analysis for general-to-super users.
- **Data Integration:** Combine vision data and reporting with business intelligence applications or software with ease.

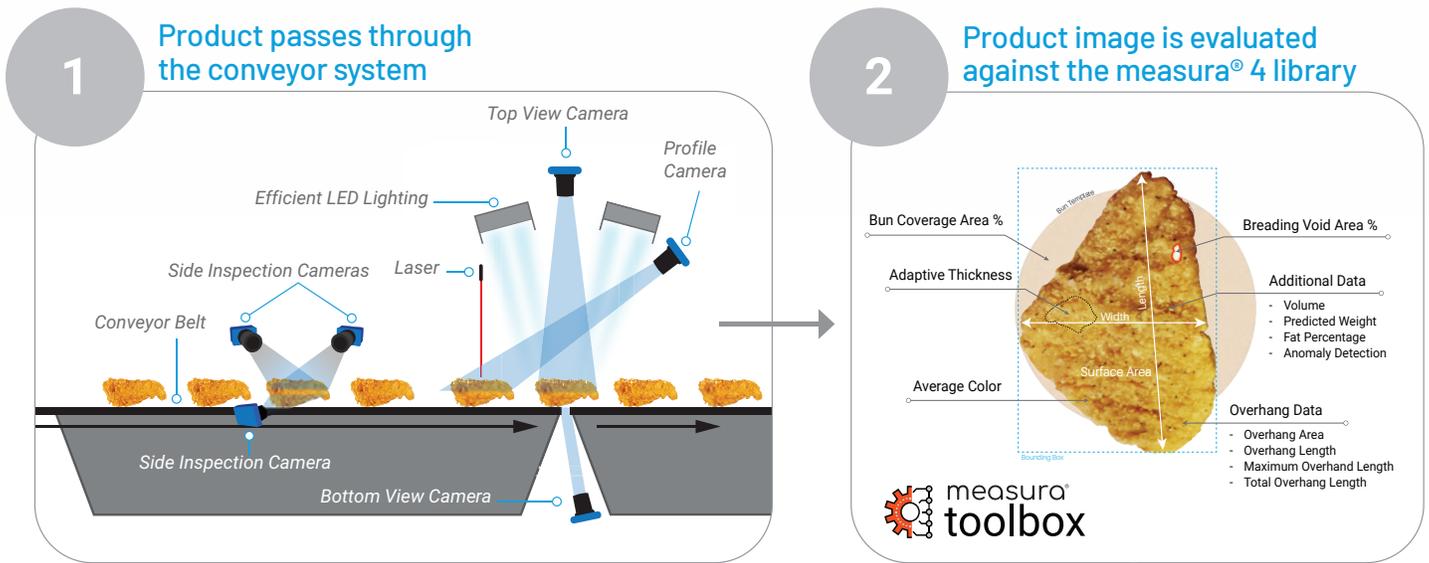


measura[®] inspection

The measura[®] Inspection module is the central hub for controlling and monitoring the vision inspection system operations. From final product inspection to data for regulatory compliances, measura[®] Inspection offers several applications to help processors measure quality, promote food safety, and modernize their operations.

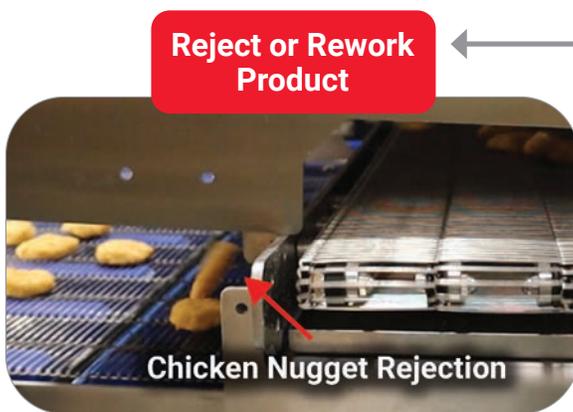
The measura[®] Inspection module controls all system hardware components

- Cameras: 2D, 3D, Short wave infrared (SWIR), IR thermal, and more
- Lighting control
- Conveyors and rejection/sorting mechanisms



The measura[®] Inspection module automatically rejects or reworks product, or alerts the user to remove unwanted foreign material

Product proceeds to next process phase



Real-time feedback from the measura[®] Inspection module enables additional applications in the overall Software Suite.

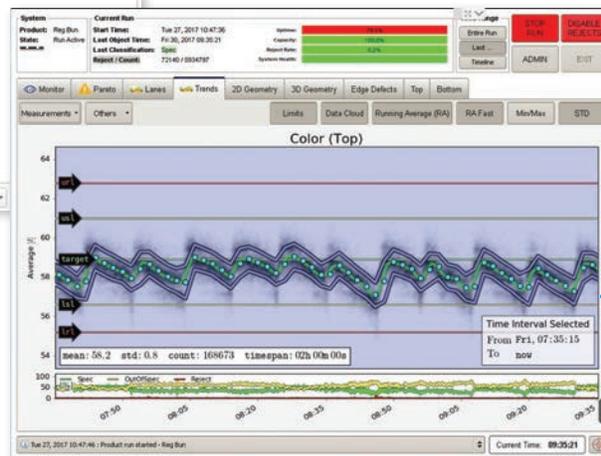
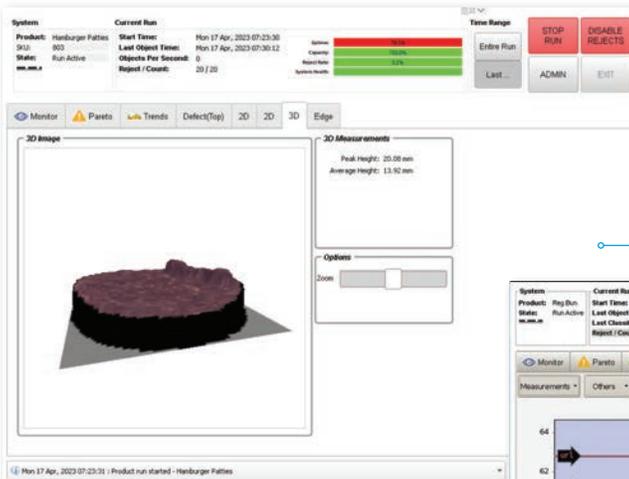


INTUITIVE OPERATOR INTERFACE

The measura® Inspection software interface provides real-time feedback on scanned products. It is where users can analyze specific trends, paretos, geometries, product defects, and other features that validate quality and process performance.



Analyze complete products for 2D and 3D features.



Monitor trends over a production run period (color variation shown here).



Identify trends of specific product defects using pareto graphs, thereby allowing the user to make production adjustments.



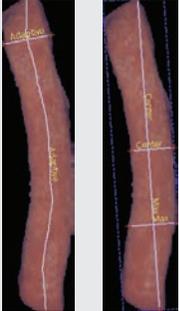
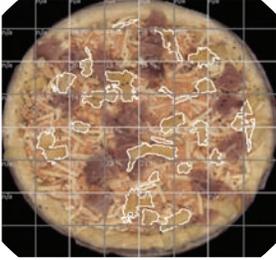
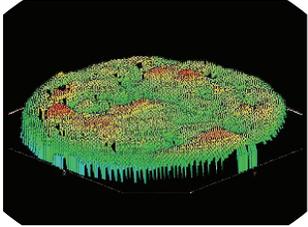
Analyze lane-by-lane quality variations.



The measura[®] 4 Toolbox module is the home for all vision inspection measurements. Users can access our **robust library of 100 different product types**, including meat and poultry products, dairy products, baked goods, snack foods, and much more.

- Provides measurements in calibrated real-world units.
- Quickly set or adjust tolerances for specific product traits.
- Play back measurement recordings over a defined period.

MEASURA[®] TOOLBOX MEASUREMENT LIBRARY INCLUDES

<p>2D-SHAPE Diameters, length, width areas, roundness</p> 	<p>TOP COLOR Surface colors, topping conformity, spot detection</p> 	<p>BOTTOM COLOR Bake color, flour marks, burnt areas, foreign color anomalies</p> 	<p>3D-HEIGHT Peak height, slope/symmetry</p> 
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Special and Advanced Measurements

Production data

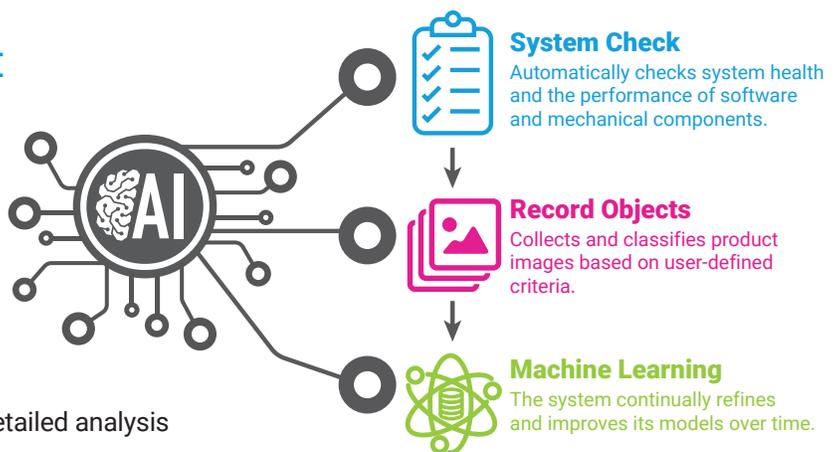
Label analysis

- Template matching, adaptive length/width
- Throughput, rejection percentage, uptime/downtime
- Bar code, date/lot code, keywords

POWERED BY ARTIFICIAL INTELLIGENCE

The measura[®] 4 Toolbox includes advanced tools to simplify setup and improve capabilities by way of AI.

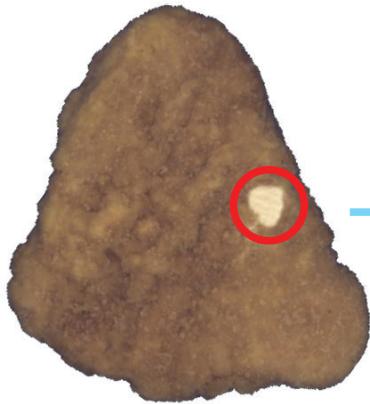
- Trained on the user's specific objects and products
- Identifies less obvious defects like texture or other contextual clues
- Leverages multiple image channels for higher detailed analysis
- Improves detection rates while reducing false positives
- Detects challenging foreign materials from the product surface, including like-colored and soft foreign materials (paper, rubber, plastic, etc.).



CONFIGURE YOUR SYSTEM AND SET UP PRODUCTS WITH EASE

The measura[®] Toolbox module offers the freedom to add, remove, and modify measurement settings. Within a few clicks, users can adjust product quality tolerances down to the finest detail.

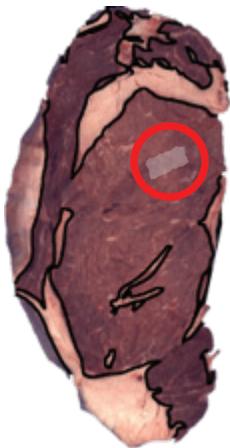
The AutoSpec application within measura[®] Toolbox automatically determines the reject limits for a product by analyzing a playback set of an in-spec product. This helps users establish stronger standards for product quality and remove objectivity from inspection.



Measurements

Result

- 2D size..... ● Acceptable
- 2D shape ● Acceptable
- Breading color ● Approaching dark limit
- Breading coverage ● Excessive void detected



Measurements

Result

- 2D size..... ● Acceptable
- 2D shape ● Acceptable
- Lean-to-fat ● Approaching too lean
- Foreign material ● Plastic detected

Product setup within the measura Toolbox allows the user to set up specific acceptance criteria for important product features, and also define system actions for the system to take when approaches upper or lower acceptance limits.

Edit Product Settings

Product Name: Risto_Speziale SKU: 2001 Description: In Fail

Measurement	Classify Or	Disable Reject	Target	LRL	LSL	USL	URL	Unit
Diameter_Avg (mean_diameter)	YES	NO	250.0	240.0		257.0		mm
RIST SPEC Salami Area (total_blob_1_area)	YES	NO	60.0	45.0		75.0		%
RIST SPEC Salami Zone Most OOG (blob_1_per_area)	YES	NO	60.0	30.0		95.0		%
RIST SPEC Kaese Area (total_blob_2_area)	YES	NO	7.5	3.5		15.0		%
RIST SPEC Kaese Zone Most OOG (blob_2_per_area)	YES	NO	7.5			25.0		%
RIST SPEC Pilze Zone Most OOG (blob_3_per_area)	YES	NO	7.5			35.0		%
RIST SPEC Pilze Area (total_blob_3_area)	YES	NO	7.5	3.5		20.0		%
Foreign Object Area (total_blob_4_area)	YES	NO	0.0			1.0		%
Height_Floor (center_height)	YES	NO	10.0			23.0		mm

Buttons: Add Measurement, Remove Measurement, OK, Cancel

CUSTOM MEASUREMENT SETUP & AI TRAINING CAPABILITY

All food products have unique traits that indicate product quality. With custom measurement setup and now AI systems can be trained to maintain essential product features and detect foreign contaminants.

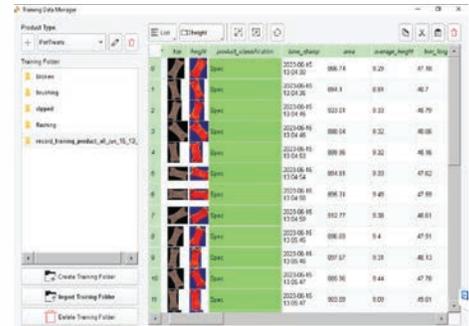


Anomaly Detection

Train your system to identify typical defects and foreign materials.

Advanced Feature Analysis

Obtain quantifiable measurements on specific product features that are vital for product grading.



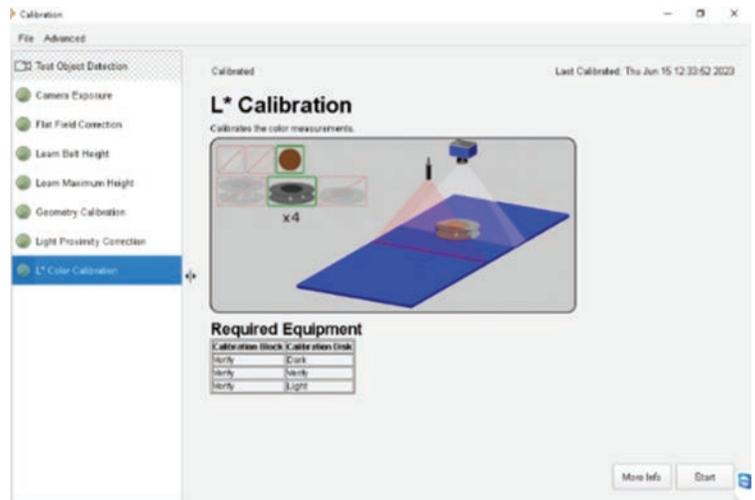
Training and Data Handling Tools

Support deployment and configuration with a purpose-built training environment

STREAMLINED SYSTEM CALIBRATION & MAINTENANCE

Now with measura[®] Toolbox, users have an easy-to-follow system calibration program to ensure the accuracy of your system. Follow the clear instructions on the screen, and your system will be ready to run in minutes.

measura[®] Toolbox also includes system health indicators to alert users when the system may need routine service. This helps maximize uptime and extend the life the life of the overall system.



CONFIGURABLE USER LEVELS

While the measura[®] Toolbox is a powerful and feature-filled vision inspection platform, not all users will need access to all features to perform their daily functions. Whether you are a vision system power user frequently developing or modifying product measurements, or a quality assurance employee using the system for routine product checks, the measura[®] Toolbox allows owners to establish user levels to protect the integrity of the system and allow ease of operation.

Improving Business Decision Making With Data

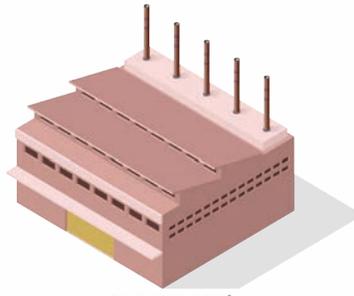
The measura[®] 4 Software Suite drives systems that help companies establish and continually elevate standards for quality. The data collected from these technologies support the efforts of various groups within an organization, including:



measura[®] analytics measura[®] dashboard

LINE 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.



measura[®] analytics

PLANT LEVEL

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



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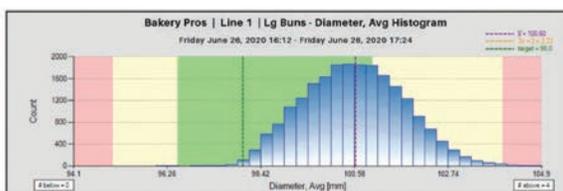
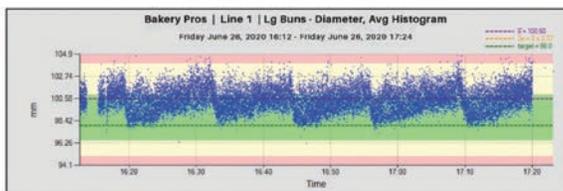
CORPORATE LEVEL

- 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.

measura[®] analytics

The measura[®] 4 Analytics module supports data extraction and facilitates the creation of valuable reports, available on-demand or via scheduled delivery. It collects secure data from multiple production lines and various facilities to comprehensively overview your operations.

- Free and paid subscriptions available.
- Measurement data is always secure and accessible whenever it is needed.



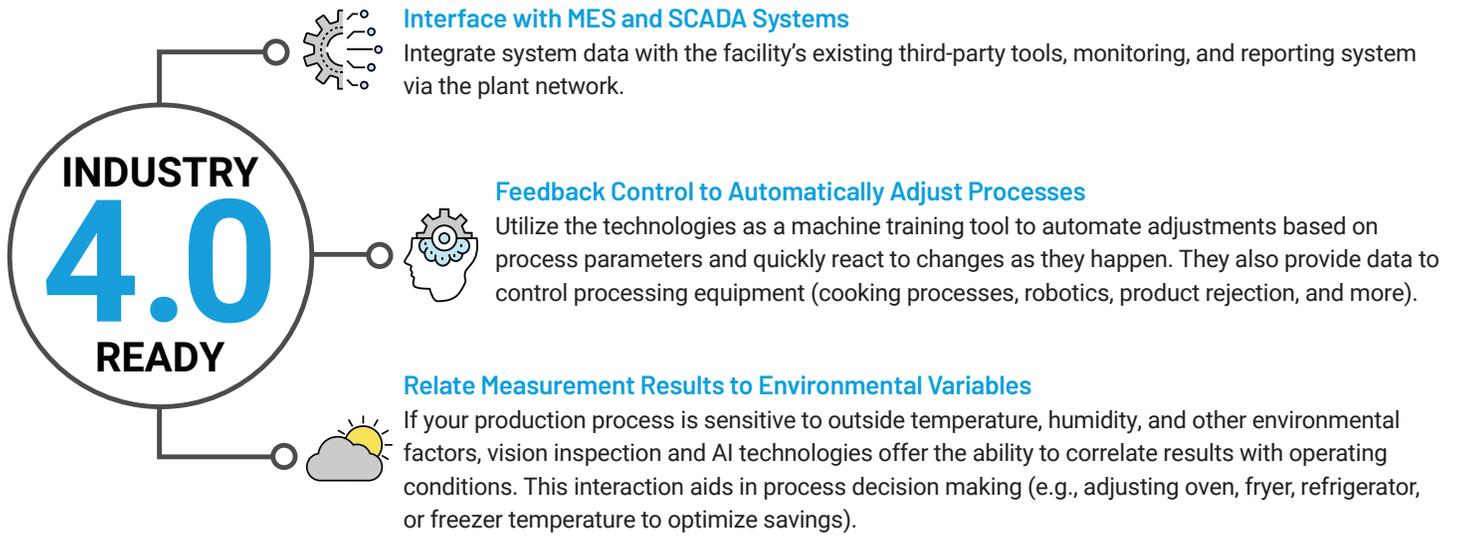
measura[®] dashboard

The measura[®] 4 Dashboard module offers a simple visual monitor of vision inspection performance wherever needed in the processing facility. Connected through an ethernet cable, the measura[®] 4 Dashboard is available on multiple display platforms to alert operators to process issues as they happen.



Integrate Your Data with Existing Processes

KPM Analytics vision inspection and AI technologies integrate seamlessly with your quality control platforms, thereby supporting Industry 4.0 efforts.



DATA FROM MEASURA® 4 CAN BE IMPORTED INTO THIRD-PARTY SOFTWARE, INCLUDING:



KPM ACADEMY

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

REMOTE SUPPORT & TROUBLESHOOTING



Free remote support from KPM Analytics is available to help companies quickly correct issues and save costs. Our *measura*® 4 Software experts are standing by to help you keep operations running smoothly and maximize uptime.

ORDERING INFORMATION

measura® Inspection	measura® Toolbox	measura® Analytics	measura® Dashboard
Standard offering for all vision systems.		Optional add-on Part #200-00001-01	Optional add-on Part# 200-00002-01

KPM Analytics

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