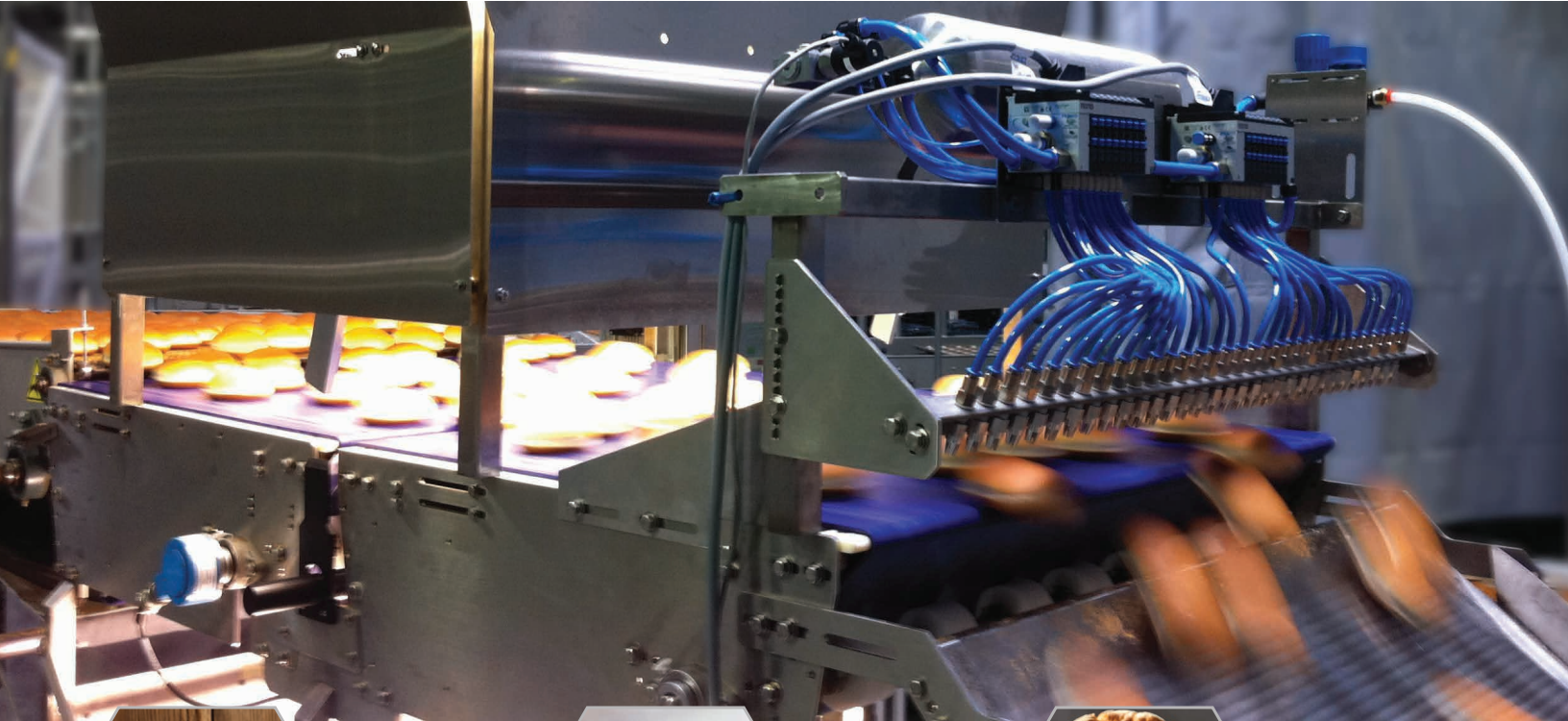




# Vision Inspection Systems

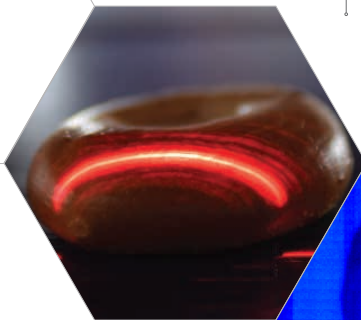




Since 2009, Sightline has been providing some of the world's largest manufacturers with 3D, full color, 100% vision inspection solutions for quality control and production automation that improve product quality, increase line productivity and reduce operating costs.



## WE PROVIDE SOLUTIONS FOR

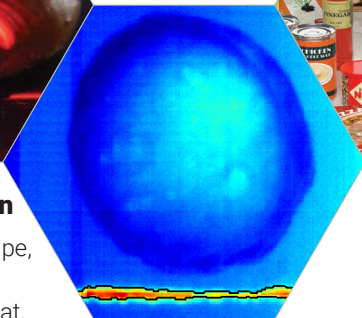


### Heat Seal Inspection

Validation of the integrity of the heat seal signature.

### Food Inspection

Inspection of shape, size, and color of baked goods, meat, poultry, cheese, eggs, fruits, vegetables, and pet food.



### Package Inspection

Complete package inspection including package integrity, label, bar code, and date/lot code.

### Counting & Packing

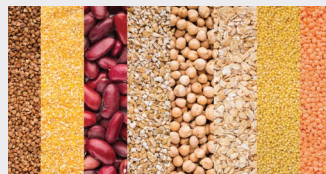
Counting and organizing of individual objects into discrete groups prior to packaging.



## Other Applications



Reusable Crates



Grain



Mail

# STANDARD FOR QUALITY

## OUR CUSTOMERS GET



## A TASTE OF SUCCESS

### Better Bagels at a Lower Cost

IL-1000 In-Line Inspection and Rejection System in a bagel line producing 600 bagels/minute



Before



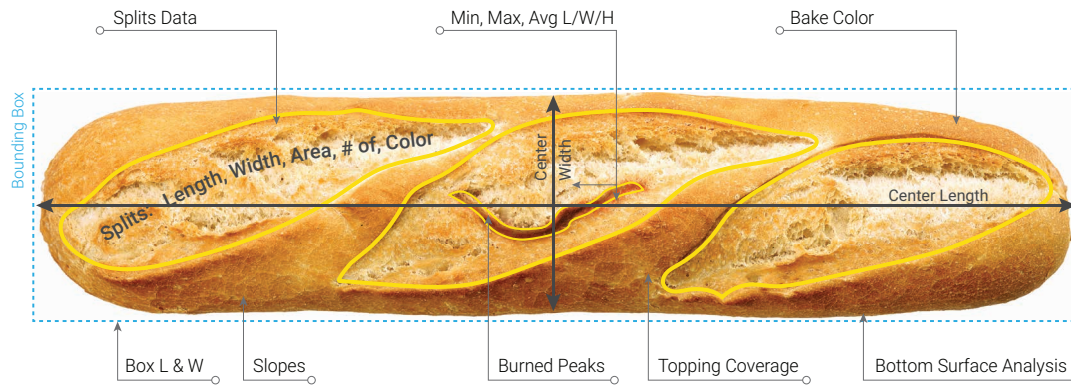
After



# POWERFUL MEASUREMENTS

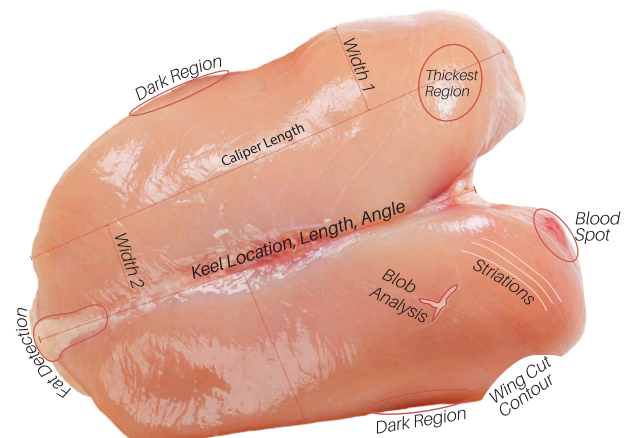
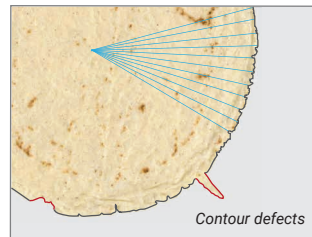
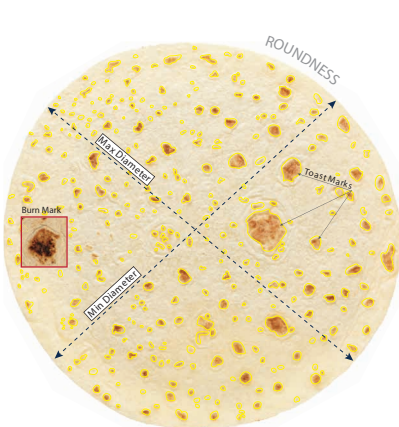
## LIBRARY OF 100+ MEASUREMENT ALGORITHMS AND GROWING

With image recognition technology, your products can now be characterized in meaningful and complex ways that are difficult and time-consuming with traditional manual methods. Our standard measurements library consists of over 100 basic & advanced algorithms and growing.



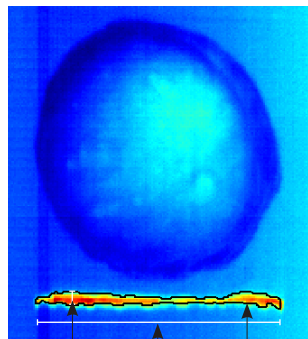
## BASIC MEASUREMENTS

- Area, shape, color
- Length and width
- Bottom inspection (optional)
- Diameters (min, max, avg, caliper, adaptive dimensions)
- Volume and slopes
- Heights/thickness (min, max, avg, center, edge)
- Cross-reference 2D/3D measurements with image stacking
- Foreign object detection

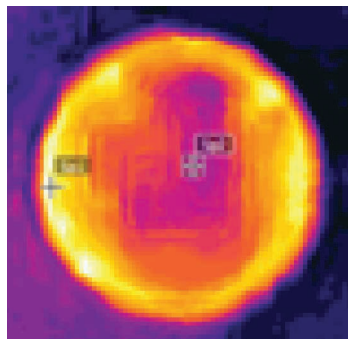


# ADAPTED TO YOUR PRODUCTS

## ADVANCED MEASUREMENTS



Seal Length  
Max Width  
Total Area

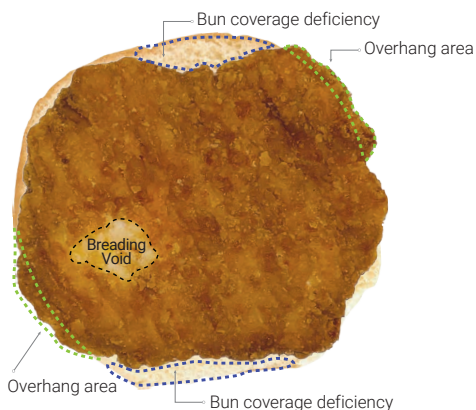


Thermal temperature signature reveals edge as hottest region allowing mathematical data to be extracted.

### Thermal Measurements

- Heat seal analysis (L&W, area, temperature)
- Product temperature (avg, hottest, coldest)

### Bun Coverage and Overhang



### Adaptive Length



### Custom Developed Measurements

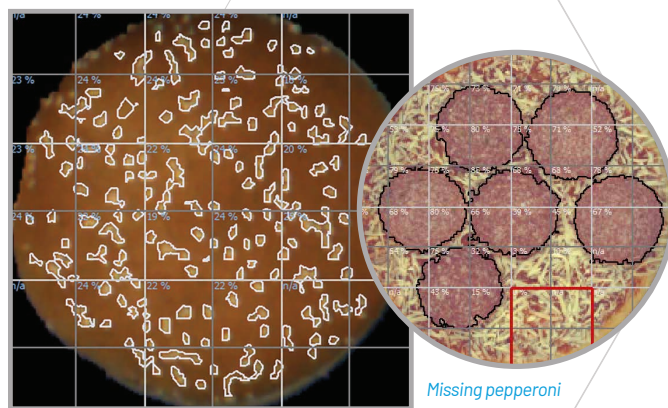
- Template match (area match %, area outside of template %, max length outside template)
- Adaptive length & width (curve follow)
- Shine detection
- Roughness (variations on edges)
- Smart thickness
- Bun coverage



- Bottom label analysis
- Color analysis of specific region-of-interest (ROI)
- Verification of specific text elements
- Date code and lot code verification
- Barcode verification and readability analysis
- Inspection of seal area for foreign material or discoloration (optional)

### Package Inspection

- Full Inspection (top, bottom, and 2D/3D analysis)
- Detection of foreign objects in seal or through clear packaging



Sesame seed coverage on a bun

Missing pepperoni

### Blob Measurements

Find and measure specific features on an object (e.g. toppings, splits, foreign materials)

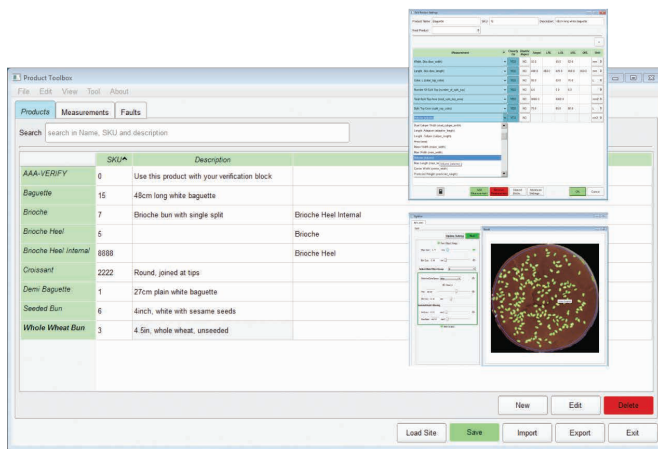
- Count of, size (L/W/area)
- Coverage % (overall, min, max, number outside thresholds)
- Average color



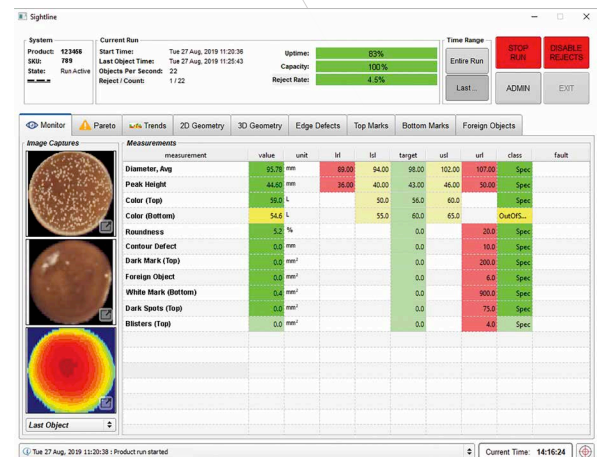
# REAL-TIME QUALITY AND

Sightline's intuitive **measura® software suite** simplifies the inspection process every step of the way, from product set-up and real-time inspection, to process monitoring and quality analytics.

## Easy System Set-Up



## Real-Time Inspection



- Define your products
- Configure your measurements
- Set limits
- Interactive blob set-up
- Playback recordings



- Fast, up to 100 objects/second
- Intuitive operator screens
- Displays trends, lane data, and defect summaries
- Record data

## 3<sup>RD</sup>-PARTY CONNECTIVITY

Data from measura® can be imported into third-party software.



# PROCESS METRICS ANYWHERE

Monitor quality assurance (QA) and production performance in real time from anywhere in the facility.

## Remote Monitoring



## measura<sup>®</sup> dashboard

- Up to 5 measurements
- Multiple display platforms
- Visual alarm
- Ethernet connectivity

## Automated Intelligence

## measura<sup>®</sup> analytics

- Customizable report template
- Configurable date range
- Scheduled pdf reports via email
- Exports to Excel or pdf

**Management Summary - Daily Report**  
 Tuesday January 08, 2019 08:00 - Wednesday January 09, 2019 08:00  
 Chicken Company - Chicken Plant

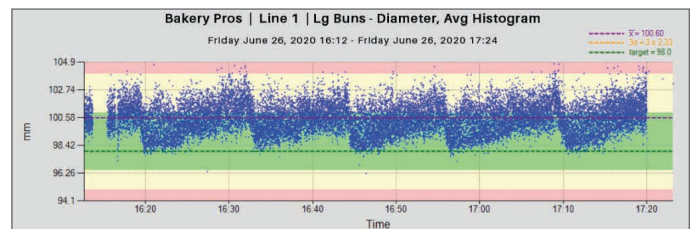
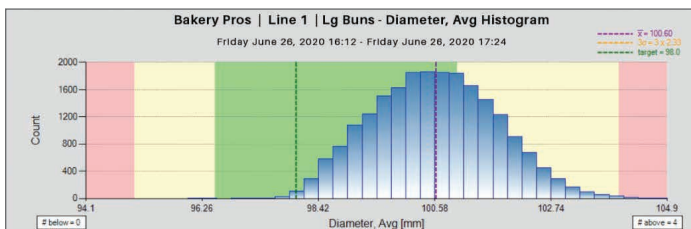
Poultry Pro   Line 3   21202										Physical Rejects: 00	
										Total Rejects: 00	
										Total Objects: 656	
Attribute	LRL	LSL	Target	USL	URL	Below LRL	Below LSL	Target	Above USL	Above URL	
Length [mm]	88	115	142			0.0%	0.0%	321 97.9%	7 2.1%	0 0.0%	
Piece Weight [g]	40	56	72			0.0%	1.0%	327 99.7%	0 0.0%	0 0.0%	
Thickness [mm]	16	22	28			0.0%	4.1%	310 94.5%	14 4.3%	0 0.0%	
Width [mm]	22	38	54			0.0%	0.0%	656 100%	0 0.0%	0 0.0%	

Poultry Pro   Line 4   21357										Physical Rejects: 00	
										Total Rejects: 00	
										Total Objects: 204	
Attribute	LRL	LSL	Target	USL	URL	Below LRL	Below LSL	Target	Above USL	Above URL	
Length [mm]	88	115	142			0.0%	2.1%	190 93.1%	12 5.9%	0 0.0%	
Piece Weight [g]	40	56	72			0.0%	4.2%	194 95.1%	6 2.9%	0 0.0%	
Thickness [mm]	16	22	28			0.0%	10.3%	174 85.3%	9 4.4%	0 0.0%	
Width [mm]	22	38	54			0.0%	0.0%	149 73.0%	55 27.0%	0 0.0%	

Poultry Pro   Line 4   21301										Physical Rejects: 00	
										Total Rejects: 00	
										Total Objects: 407	
Attribute	LRL	LSL	Target	USL	URL	Below LRL	Below LSL	Target	Above USL	Above URL	
Length [mm]	89	114	158			0.0%	3.0%	399 98.0%	5 1.2%	0 0.0%	
Piece Weight [g]	34	54	74			0.0%	3.0%	400 98.3%	4 1.0%	0 0.0%	
Thickness [mm]	11	21	31			0.0%	7.1%	364 89.4%	38 8.8%	0 0.0%	
Width [mm]	25	38	51			0.0%	0.0%	392 96.3%	15 3.7%	0 0.0%	





## BENCHTOP



(BT-250)



Washdown version  
(BT-300WD)

- Compact; installed in a lab or at-line
- Measure products up to 91 cm (36" long)
- Top-view and 3D profile cameras included
- Choose from 3 conveyor widths
- Weigh scales and temperature probes as optional accessories

## OVER-LINE



- Mounts directly over existing production line
- 100% inspection up to 100 objects/second
- Supports multiple camera and lighting types from the top
- Supports conveyor widths from 300 mm - 2 m (12" to 6.5')
- Generates production metrics (uptime, throughput, etc.)
- Supports single-file rejection system
- Models available: OL-300 to OL-2000



# TO MEET YOUR NEEDS



# IN-LINE

- Integrates seamlessly into existing production lines
- 100% inspection with rejection, up to 100 objects/second
- Variable speed inspection conveyor included
- Various rejection mechanism choices
- Supports multiple camera and lighting types
- Optional bottom and side cameras
- Generates production metrics (uptime, throughput, etc.)
- Customization available upon request
- Models available: IL-300 to IL-2000

## COMMON SPECIFICATIONS\*

Facility:	Humidity: 5% - 95%, non-condensing
	CPU Panel: 15A, 120VAC/60HZ (7.5A, 230VAC/50HZ option available)
	Drive Panel: 400-600VAC/3-phase/1HP
	Air (rejection): 30cfm @ 80psig
Computer:	Intel Core i7 or better
OS:	Windows 10 Professional or Enterprise
Connectivity:	Ethernet (wireless solutions available on request)
Database:	MySQL Server (on local SSD)

## SYSTEM SPECIFICATIONS\*

	Benchtop:	Over-Line:	In-Line:
Temperature:	4 to 45°C (40°F to 113°F)	4 to 30°C, 50°C with cooling option (40 to 86°F, max 122°F with cooling option)	4 to 30°C, 50°C with cooling option (40 to 86°F, max 122°F with cooling option)
Size:	<b>BT-250:</b> 978 mm L x 914 mm H x 457 mm W (38.5" x 36" x 18") <b>BT-300WD:</b> 914 mm L x 947 mm H x 749 mm W (38.5" x 37.25" x 29.5") (washdown version)	<b>OL-500:</b> 813 mm L x 889 mm H x 1092 mm W (32" x 35" x 43") (with lights) <i>Actual width varies with conveyor width from 300 mm to 2 m</i>	<b>IL-1000:</b> 1753 mm L x 1956 mm H x 1016 mm W (69" x 77" x 40") <i>Actual width varies with conveyor width from 300 mm to 2 m</i>
Throughput:	Up to 10 objects/second	Up to 100 objects/second	Up to 100 objects/second
Object Size Limits:	<b>Min:</b> 3.2 mm, <b>Max:</b> 508 mm L x 140 mm H x 406 mm W ( <b>Min:</b> 1/8", <b>Max:</b> 20" x 5.5" x 16")	<b>Min:</b> 13 mm, <b>Max:</b> Continuous Length x 114 mm H x 762 mm W ( <b>Min:</b> 1/2", <b>Max:</b> Continuous Length x 4.5" x 30")	<b>Min:</b> 6.5 mm, <b>Max:</b> 610 mm L x 114 mm H x 990 mm W ( <b>Min:</b> 1/4", <b>Max:</b> 24" x 4.5" x 39")

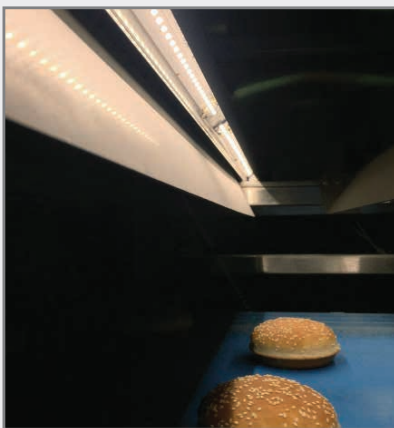
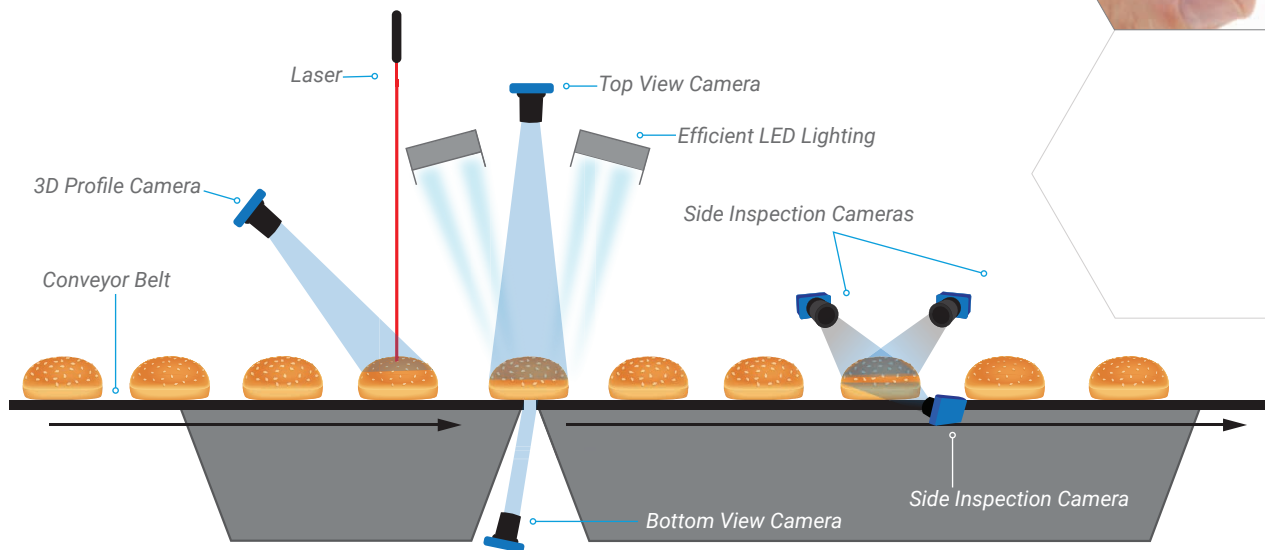
\*specifications are typical, customization available upon request

# FLEXIBLE DESIGN FOR YOUR

## CAMERA OPTIONS

Cameras and lighting are the core of any image acquisition system. We have a wide selection of camera and lighting options to ensure the highest quality of images are captured for repeatable and accurate measurements.

- **Top View** – full color, resolutions as low as 0.02 mm
- **3D Profile** – resolutions  $\geq 0.1$  mm,  $> 500,000$  height data points per second
- **Side** – 360-degree imaging of all sides of objects
- **Bottom** – full color resolutions as low as 0.02 mm
- **Thermal** – top view thermal imaging of objects for temperature analysis



White LED Lighting Bars

## LIGHTING OPTIONS

- **White LED** – for accurate color measurement
- **UV** – for detection of fluorescence and fluorescence features
- **IR** – to increase contrast for black and/or dark objects
- **Laser** – for 3D profiling

*Thermal applications do not require additional lighting.*



# UNIQUE PRODUCTION LINE

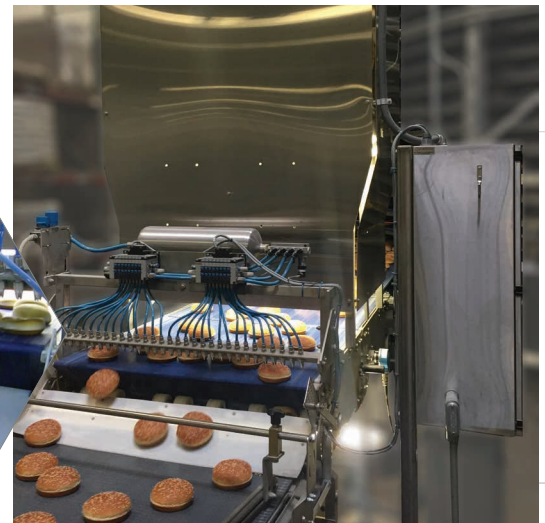
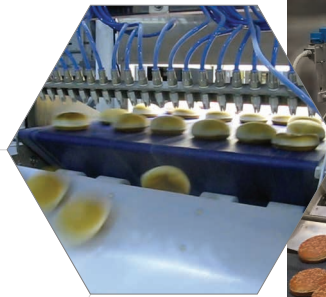


## CONVEYORS

- Interface with existing conveyors via PLC
- Variable speed control
- Customized to ensure perfect fit
- Flexible component selection based on requirements
- Stand height adjusted to customer specifications

## AUTOMATIC REJECTION OPTIONS

- Conveyor shutdown
- Air jet rejection (top, side)
- Nose bar (drop, lift, retracting)
- Pusher
- Sweep arm
- Push fingers



## ADDITIONAL AUTOMATION OPTIONS

- Laning, sorting, recirculation
- PLC (Allen-Bradley, Siemens)
- Industrial robot option (ABB)
- Interface with production equipment
- Other automation options available on request

## GLOBAL KPM FOOTPRINT

As a KPM Analytics brand, Sightline customers are supported by our global KPM sales, service, and authorized distribution network.



- KPM HEADQUARTERS
- BRAND HEADQUARTERS / SALES OFFICE
- SALES & SUPPORT OFFICE

Contact KPM Sales Offices for local distribution and representatives in your country.

[Sales@kpmanalytics.com](mailto:Sales@kpmanalytics.com) | [Support@kpmanalytics.com](mailto:Support@kpmanalytics.com)

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**U.S.A. (Boston)**  
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**Canada (Ottawa)**  
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**France (Paris)**  
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**Poland (Warsaw)**  
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**Germany (Frankfurt)**  
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**Italy (Rome)**  
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**China (Beijing)**  
+86 (10) 63345789

**Malaysia (Kuala Lumpur)**  
+86 (10) 6334 5780

## SERVICE AND SUPPORT



Sightline has access to the vast resources of the global KPM organization in order to provide the highest quality installation, training, remote support, annual maintenance, and extended warranties. Sightline also provides system conversions, as well as software and hardware upgrades. Each system includes built-in Ethernet capabilities to support remote diagnostics.



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