

SMARTVISION
IN LINE QUALITY

Smart Quality Control Equipment
for Industrial Production



[YouTube.com](https://www.youtube.com)



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MISSION

PROVIDE SOLID TECHNOLOGIES THAT ALLOW
AUTOMATIC QUALITY CONTROL TASKS
DIRECTLY IN PRODUCTION LINE



Our History

1999

Founded in 1999

With over 25 years of experience in the field, Mr Giovanni Schiavi founded SmartVision in the early 1999 in Northern Italy

Custom Made Products

In Line Quality Control Systems
and Solutions for Industrial Production

Standard Products

Introduction of Standard Products:

- Smart Quality Control Equipment for Industrial Production

2009

Our History

2009

Two product Lines

Focus on two main specialized categories:

- Video Measuring Machines
- Quality Control Instruments for Sunglasses

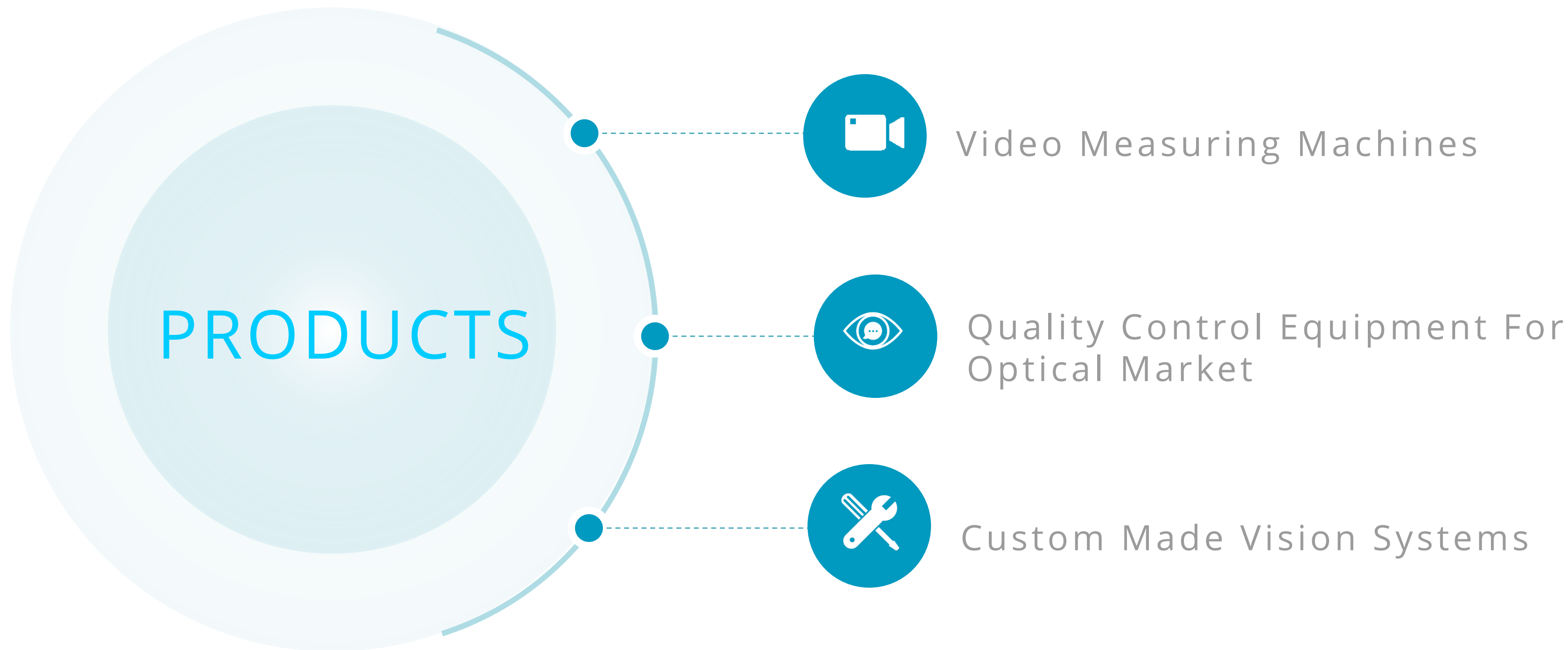
New offices Location

Moved the Headquarter in a Brand new strategic location, employment of new expert personnel, developement of a new range of products

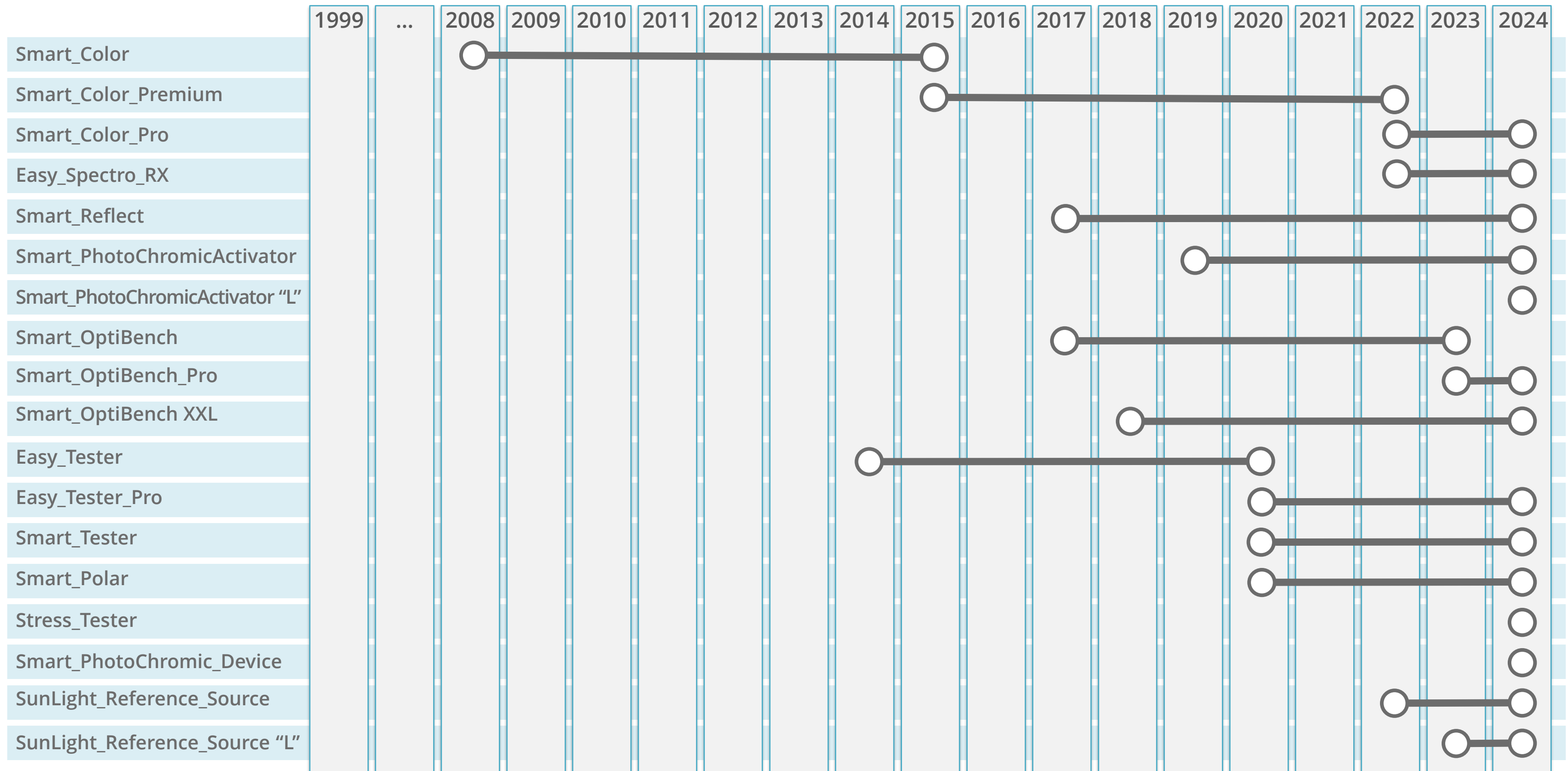
SmartVision S.r.l.

SmartVision consolidated its reputation and became a Limited Company, reaching **35** Qualified Distributors all over the world

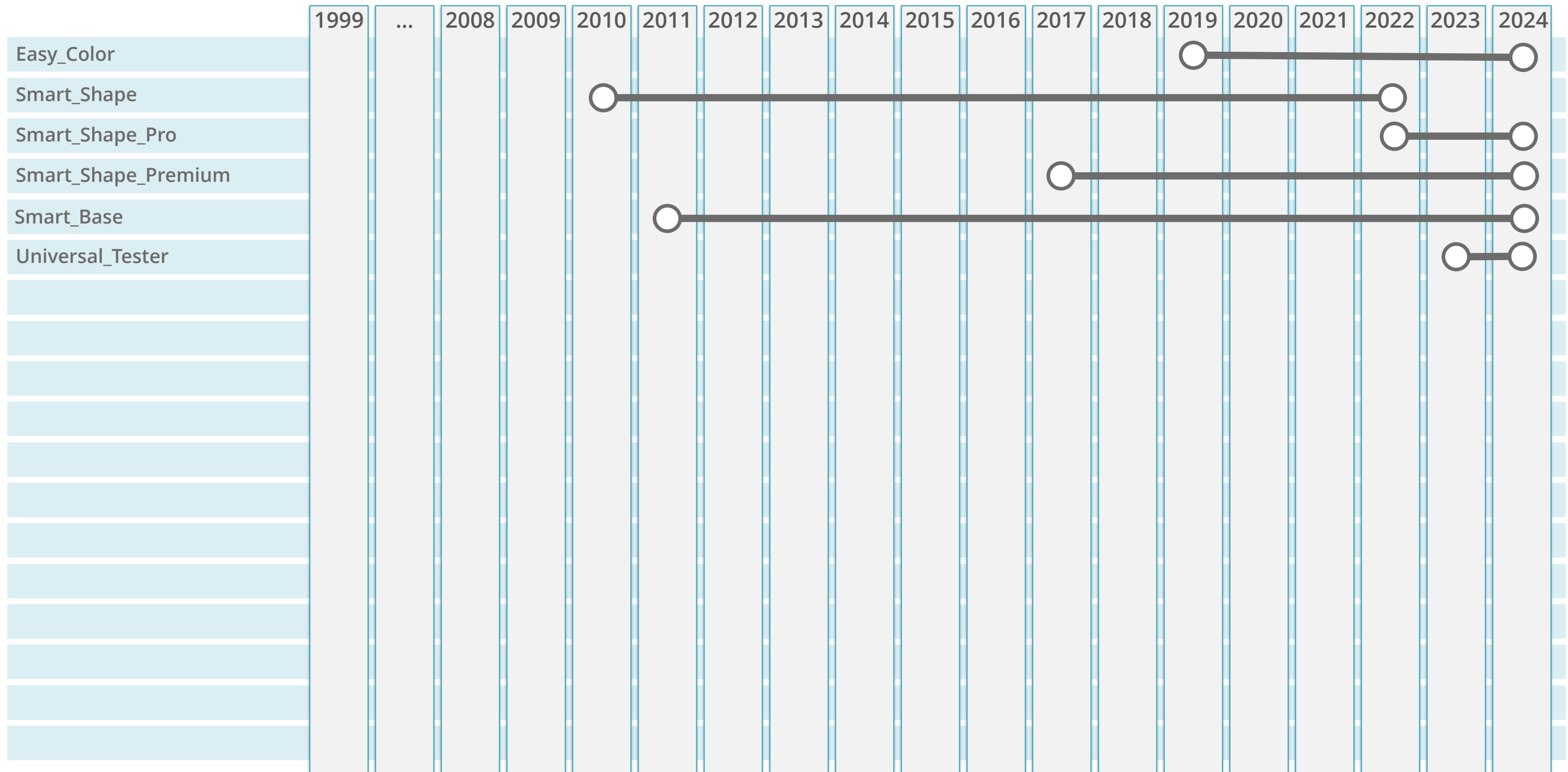
2024



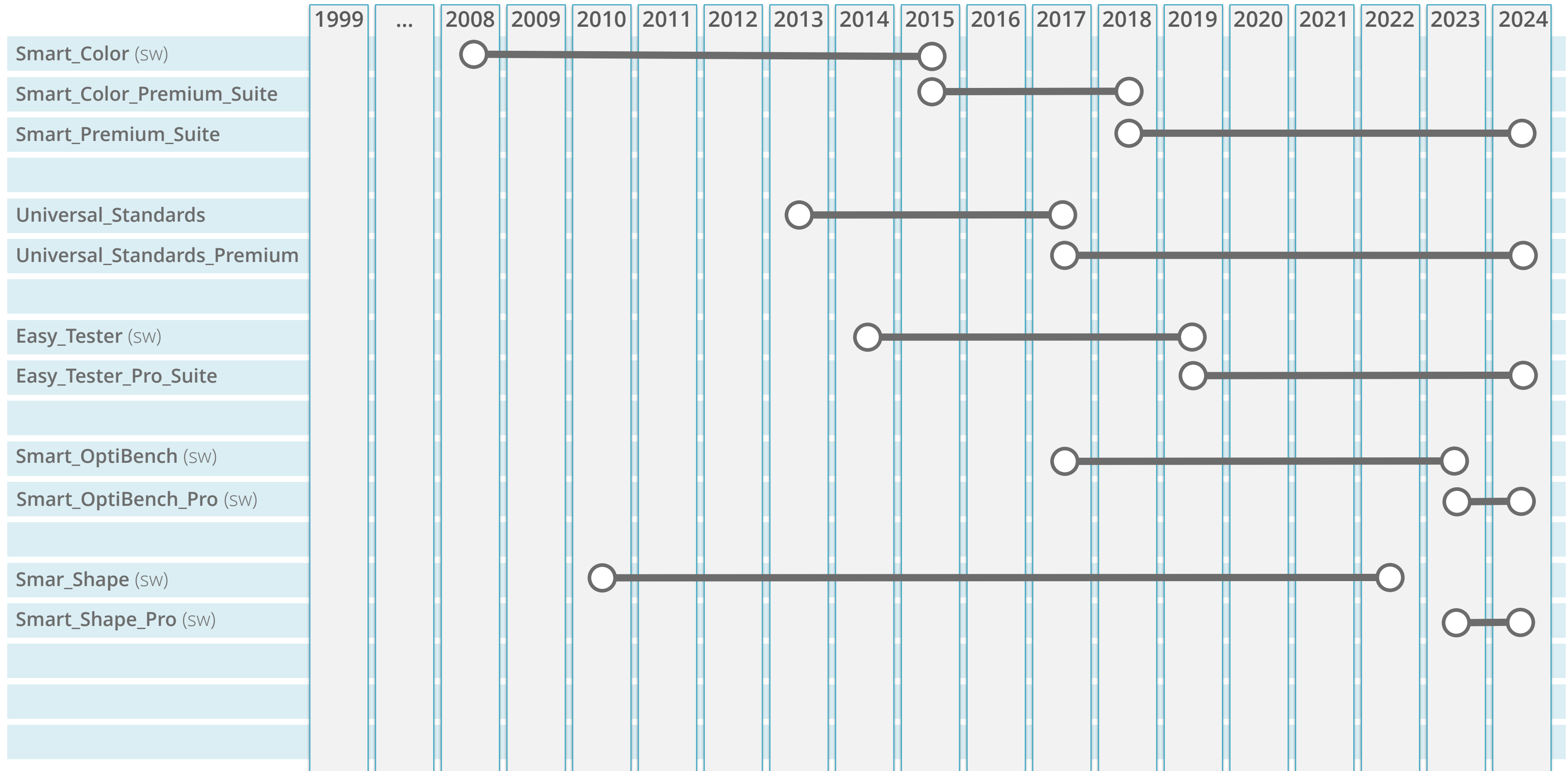
History Road Map - Eyewear Equipment



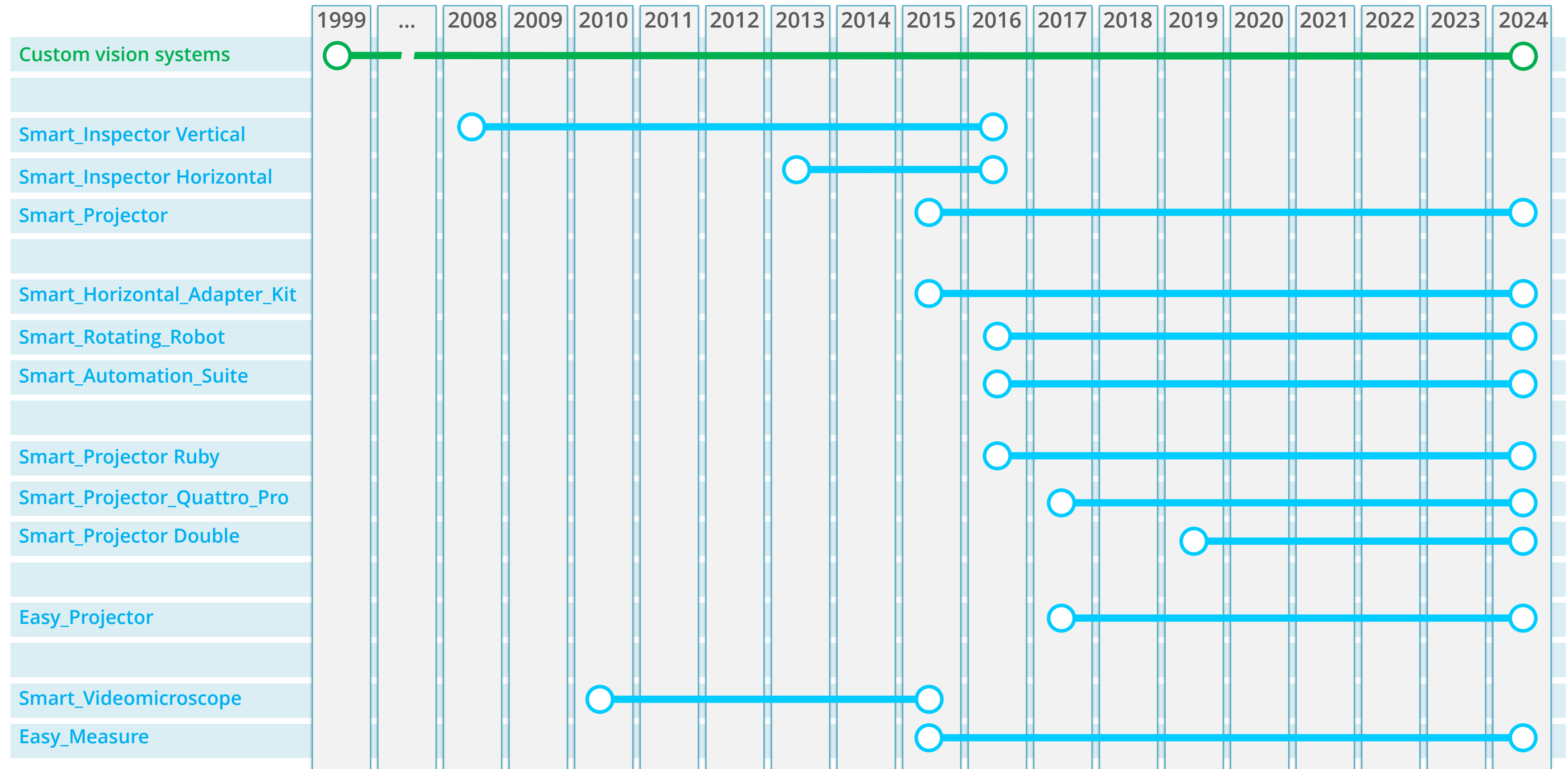
History Road Map - Eyewear Equipment



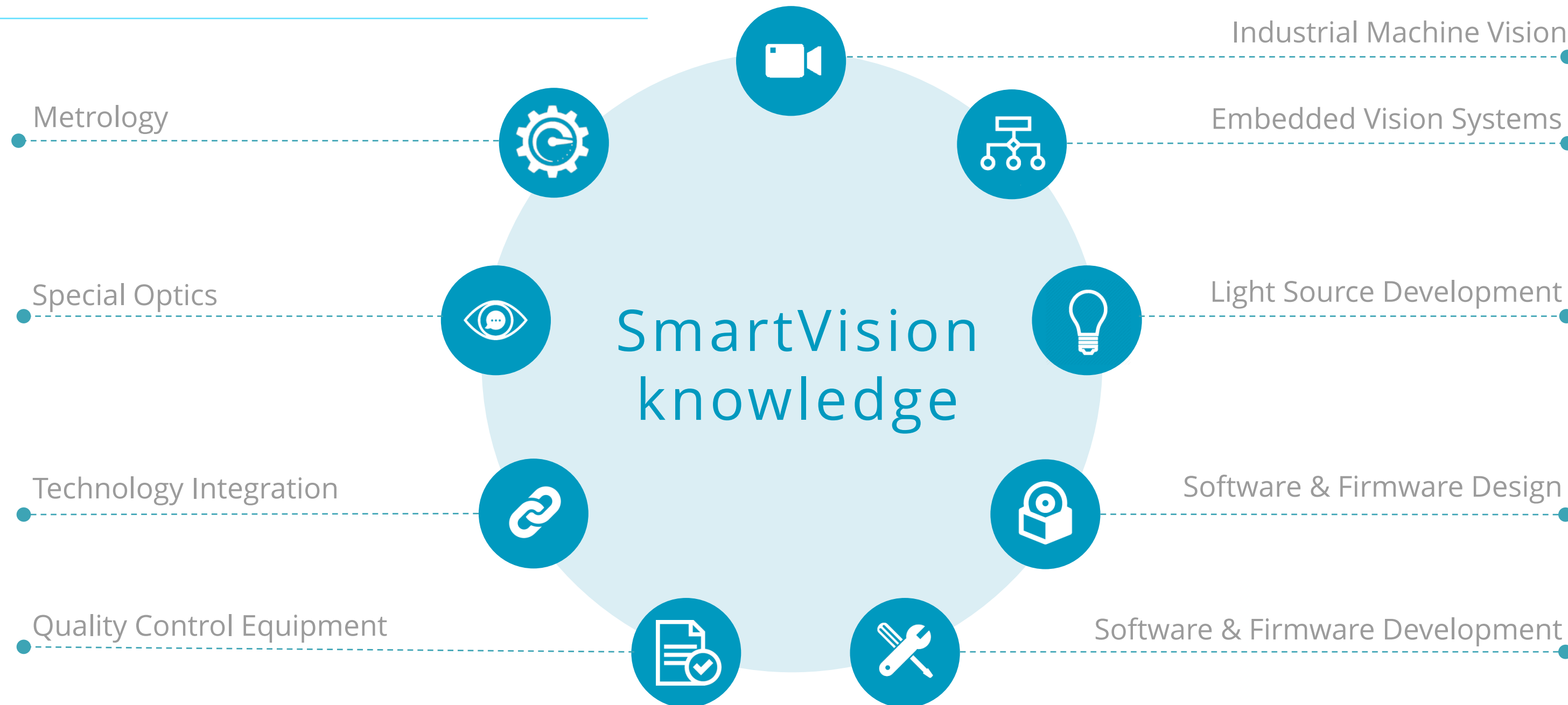
History Road Map - Eyewear Software



History Road Map - Metrology Equipment



Research & Development Company



Our Strengths

01 Research And Development

02 Sales And Marketing Strategy

03 Technical Creativity

04 Flexibility & Efficiency

05 Customer Care

Current Market Segments



EYEWEAR



GLASS



AUTOMOTIVE



MICROMECHANICAL



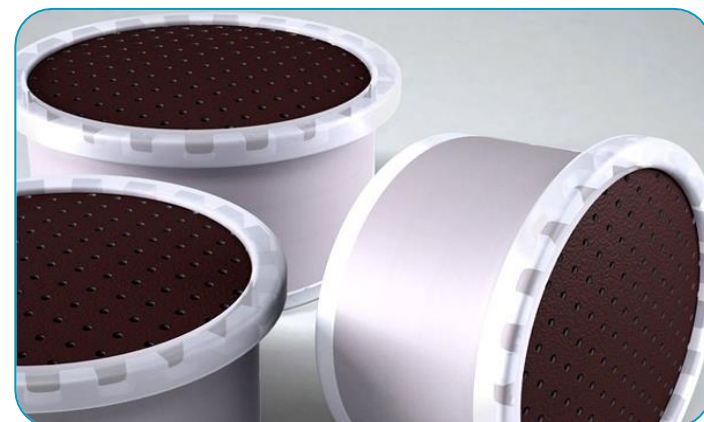
PHARMACEUTICAL



MEDICAL



MECHANICAL

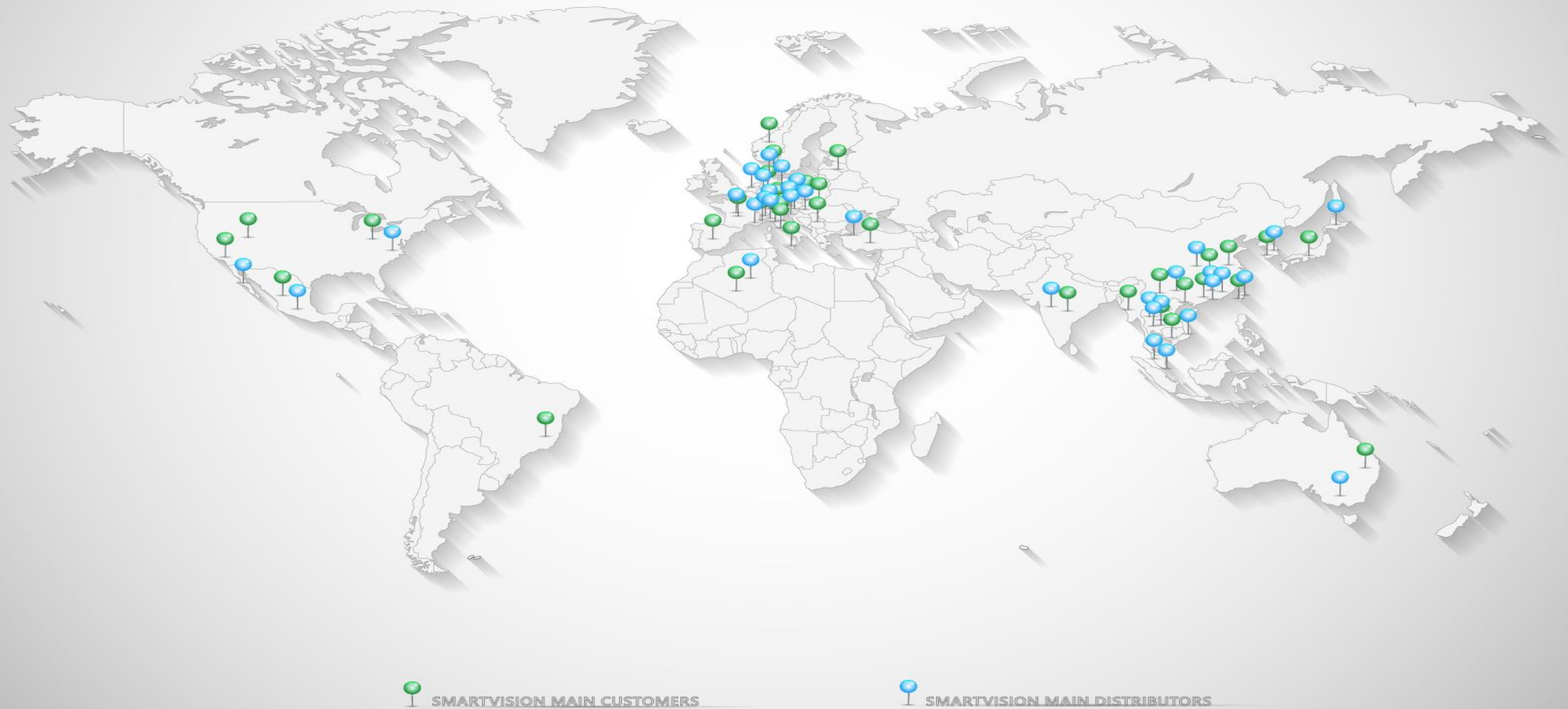


FOOD&BEVERAGE

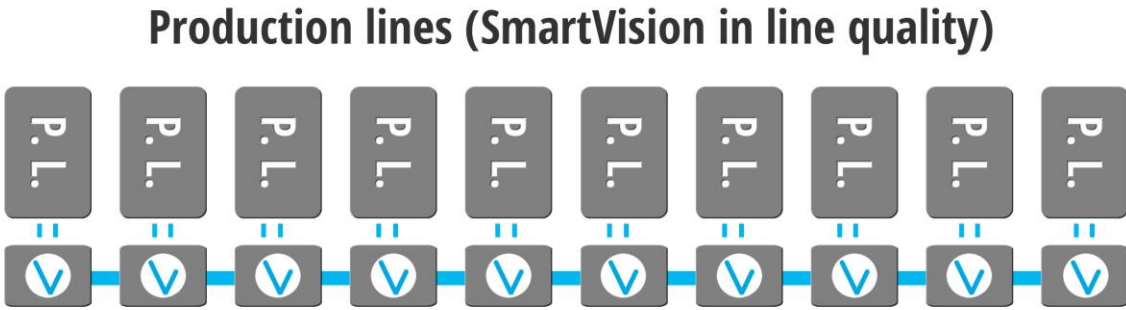
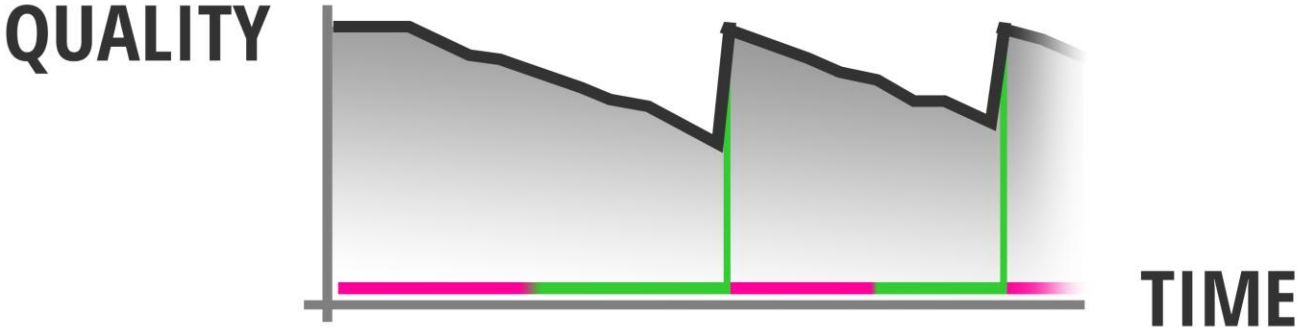
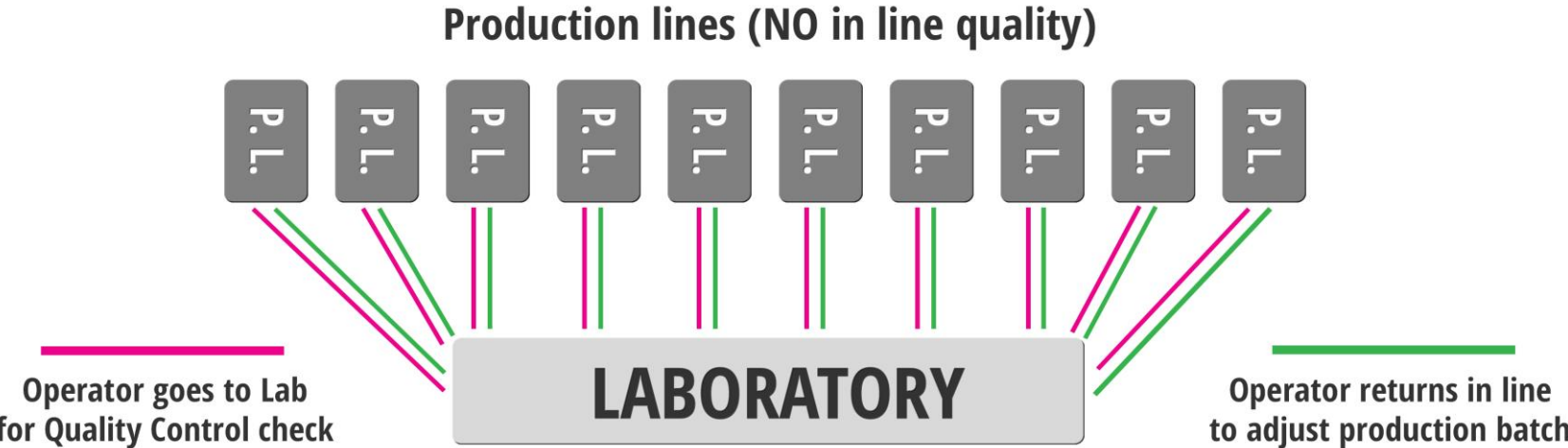


PLASTIC

SmartVision's Market Distribution



Production - Traditional Way



Standard Products - Eyewear

NEW



Easy_Spectro_RX

NEW



Smart_Color_Pro



Smart_Reflect

NEW



Smart_PhotoChromaticActivator

NEW



SunLight_Reference_Source



Easy_Color

Standard Products - Eyewear



Easy_Tester_Pro



Smart_Tester



Smart_Polar



Stress_Tester



Smart_OptiBench_Pro



Smart_OptiBench XXL

Standard Products - Eyewear



Smart_Base



Smart_Shape_Pro

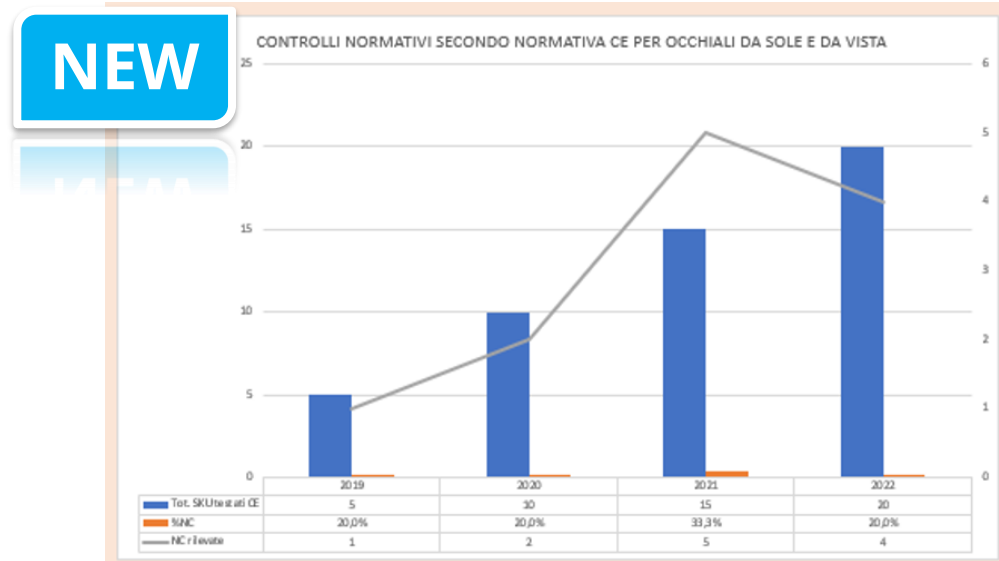


Smart_Shape_Premium

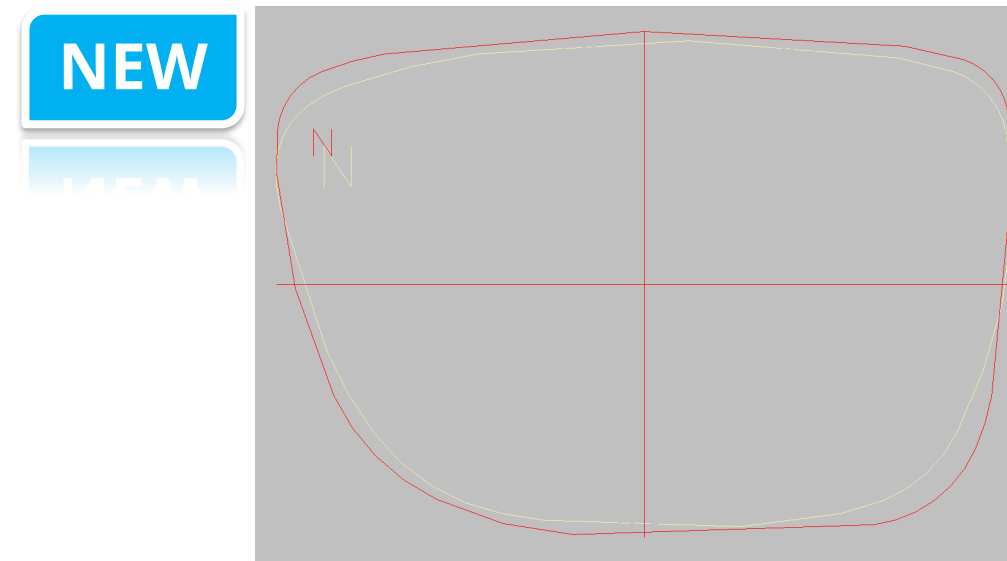


Universal_Tester

NEW Software Products



Certification & Statistics



Equal-Template Research
(Pari-Dima)



SmartVision_Cloud_Service

All International Standards Available

Application	Standard	Regulation	Easy_Spectro_RX & Smart_Color_Pro	Smart_Reflect	Easy_Tester_Pro & Smart_Tester	Smart_OptiBench	Universal_Tester	
							Smart_Tester Sub System	OptiBench Sub System
SunGlasses	ISO 12312-1	<i>Sunglasses for general use</i>	✓	✓ FullLens version	✓	✓	✓	✓
	ANSI Z80.3	<i>Nonprescription Sunglass and Fashion eyewear requirements</i>	✓		✓	✓	✓	✓
	AS/NZS 1067.1	<i>Sunglasses and Fashion Spectacles</i>	✓			✓		✓
	EN 1836	<i>Sunglasses and Sunlare Filters for general use</i>	✓			✓		✓
	GB 39552.1	<i>Sunglasses and Sunglasses Lenses</i>	✓		✓	✓	✓	✓
	QB 2457	<i>Sunglasses</i>	✓			✓		✓
Ski	EN 174	<i>Ski Goggles for downhill Skiing</i>	✓		✓	✓	✓	✓
	EN ISO 18527-1	<i>Requirements for downhill Skiing and Snowboarding Goggles</i>	✓		✓	✓	✓	✓
	ASTM F659-10	<i>Standard specification for Ski and Snowboard Goggles</i>				✓		✓

All International Standards Available

Application	Standard	Regulation	Easy_Spectro_RX & Smart_Color_Pro	Smart_Reflect	Easy_Tester_Pro & Smart_Tester	Smart_OptiBench	Universal_Tester	
							Smart_Tester Sub System	OptiBench Sub System
Squash	ISO 18527-2	Requirements for eye protectors for Squash and eye protectors for Racquetball and Squash 57	✓			✓		✓
Swimming	ISO 18527-3	Requirements and test methods for eyewear intended to be used for Surface Swimming	✓			✓		✓
Active Lifestyle	ISO 12312-3	Eye and face protection - Sunglasses and related eyewear - Sunglasses for running, cycling and similar active Lifestyles	✓			✓		✓
Ophthalmic	GB 10810.3	Single-vision and multifocal lenses	✓			✓		✓
	ISO 8980-3	Uncut finished spectacle lenses - Transmittance specifications and test methods	✓					
	ISO 8980-4	Uncut finished spectacle lenses - Specifications and test methods for anti-reflective coatings			✓ Surface version			

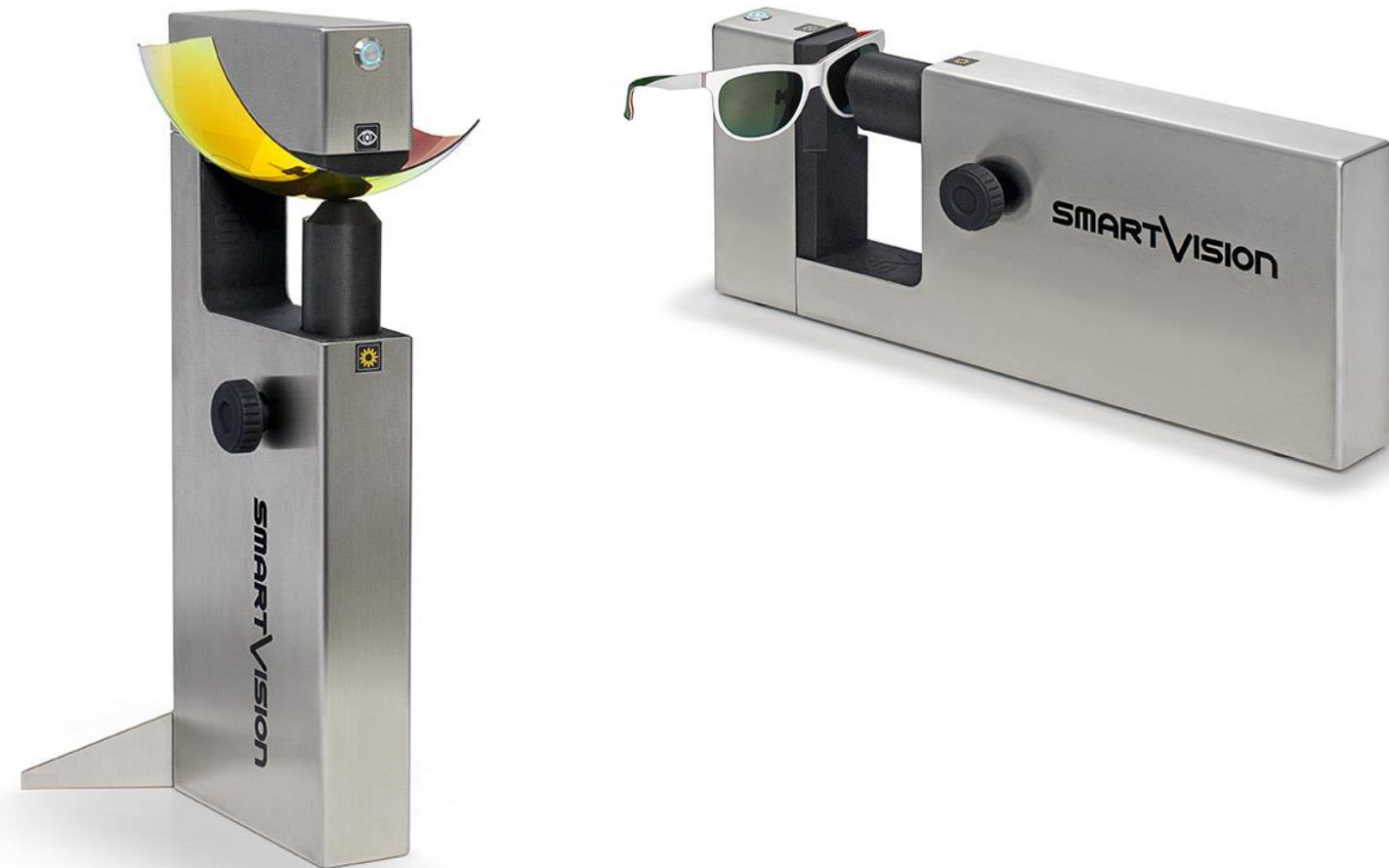
All International Standards Available

Application	Standard	Regulation	Easy_Spectro_RX & Smart_Color_Pro	Smart_Reflect	Easy_Tester_Pro & Smart_Tester	Smart_OptiBench	Universal_Tester	
							Smart_Tester Sub System	OptiBench Sub System
Safety	ISO 16321-1	<i>Eye and face protection for occupational use</i>	✓		✓	✓	✓	✓
	ANSI/ISEA Z87.1	<i>Occupational and Educational personal eye and face protection devices</i>	✓			✓		✓
	EN 166	<i>Personal eye-protection</i>	✓			✓		✓
	AS/NZS 1337.1	<i>Eye and face protectors for occupational applications</i>	✓			✓		✓
	JIS T 8147	<i>Personal eye-protection</i>				✓		✓
	Z94.3	<i>Eye and face protectors</i>				✓		✓
Helmets	ECE 22-06	<i>Uniform provisions concerning the approval of protective Helmets and of their Visors for Drivers and passengers of Motor cycles and mopeds</i>	✓			✓		

All International Standards Available

Application	Standard	Regulation	Easy_Spectro_RX & Smart_Color_Pro	Smart_Reflect	Easy_Tester_Pro & Smart_Tester	Smart_OptiBench	Universal_Tester	
							Smart_Tester Sub System	OptiBench Sub System
Blue-light hazard	GB/T 38120	<i>Technical requirements on application of light health and light safety of coating for protection against Blue-light</i>	✓					
	ISO 18526-2	<i>Eye and face protection - Test methods - Physical optical properties</i>	✓					
	ISO 4007	<i>Eye and face protection for artificial Light</i>	✓					

NEW



- ▶ Best entry level Spectrophotometer
- ▶ Spectral analysis in the 355 - 790 nm range
- ▶ Color Difference
- ▶ Transmittance Properties
- ▶ 3D Color Space Visualization
- ▶ Lamps Warm-up Dynamic Control
- ▶ Continuous Auto-calibration
- ▶ Spectrum Stability Continuous Control
- ▶ Modular: Wide Range of Optional Features
- ▶ Ideal for use in the following sectors:
 - Verification of RX Lenses, SunLenses, SunGlasses, SkiGoggles and Helmet Visors
 - Colorimetric verification of semitransparent materials

Smart_Color_Pro

NEW

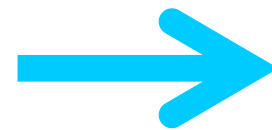


- ▶ Automatic Spectrophotometer
- ▶ Color Difference
- ▶ Transmittance Properties
- ▶ Lens Holding System
- ▶ 3D Color Space Visualization
- ▶ Lamps Warm-up Dynamic Control
- ▶ Continuous Auto-calibration
- ▶ Spectrum Stability Continuous Control
- ▶ **NEW** Function Mode "CRF" (Color Resolution Factor: Measure and Comparison)
- ▶ **NEW** SmartVision Cloud Service
- ▶ **NEW** International Standard Available for Quality Control of Lenses, Eyeglasses & Visors for Sun, Sports & Safety

Smart_Premium_Suite | New Optional Features

New Color Resolution Measurement and Comparison for Smart_Premium_Suite

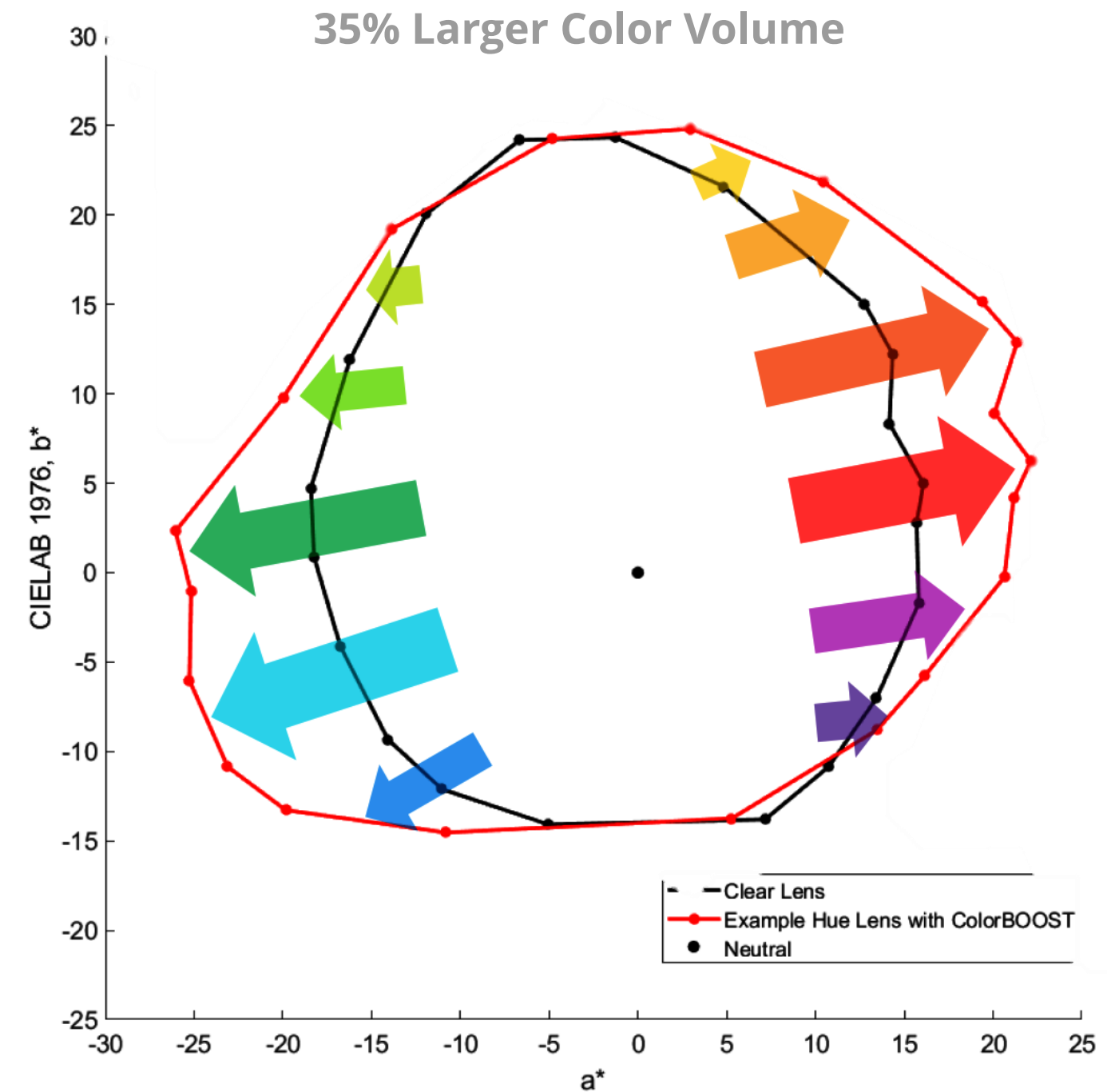
Clear Lens
CRF 100%
CAF 100%



CRF **135%**
CAF 99%

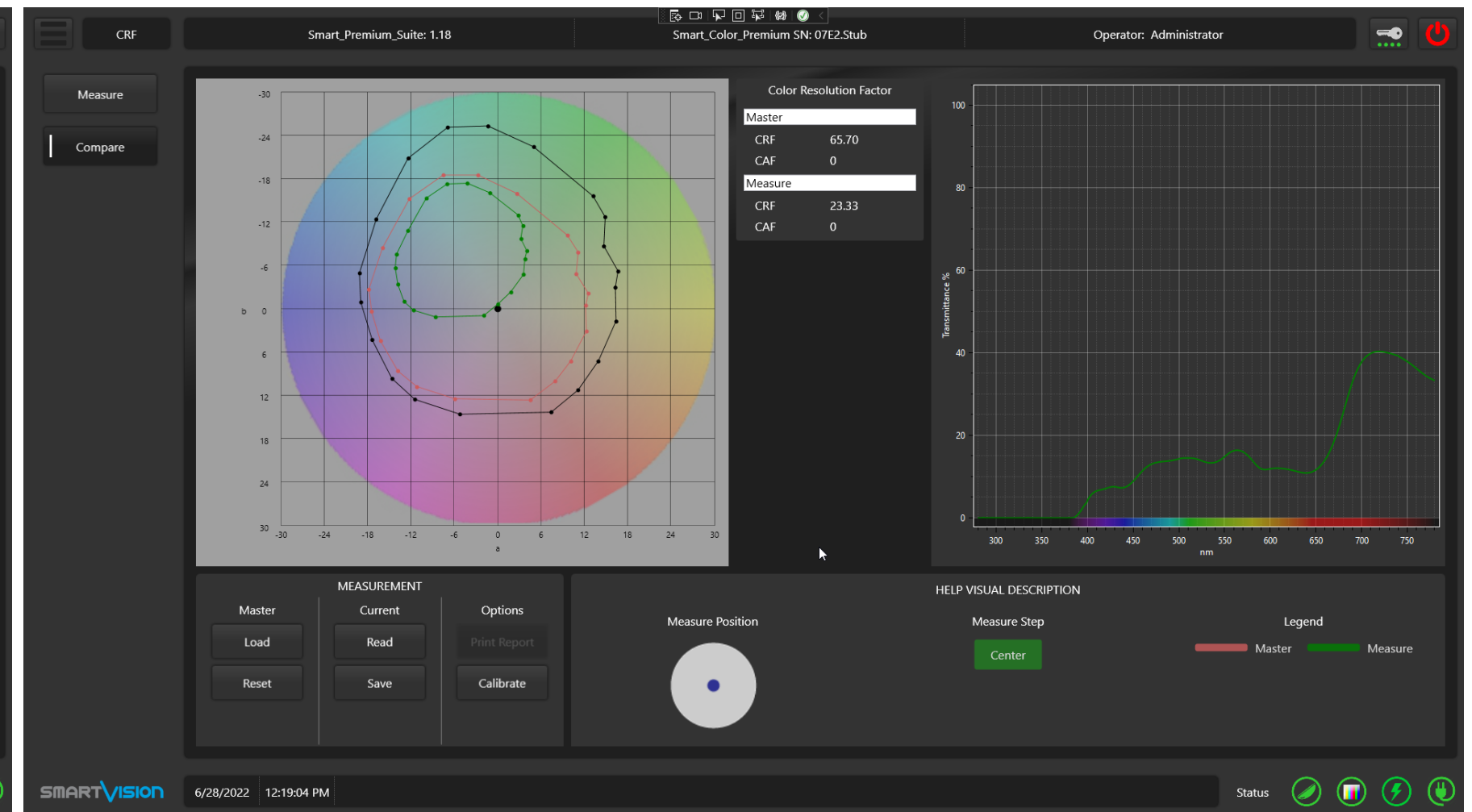
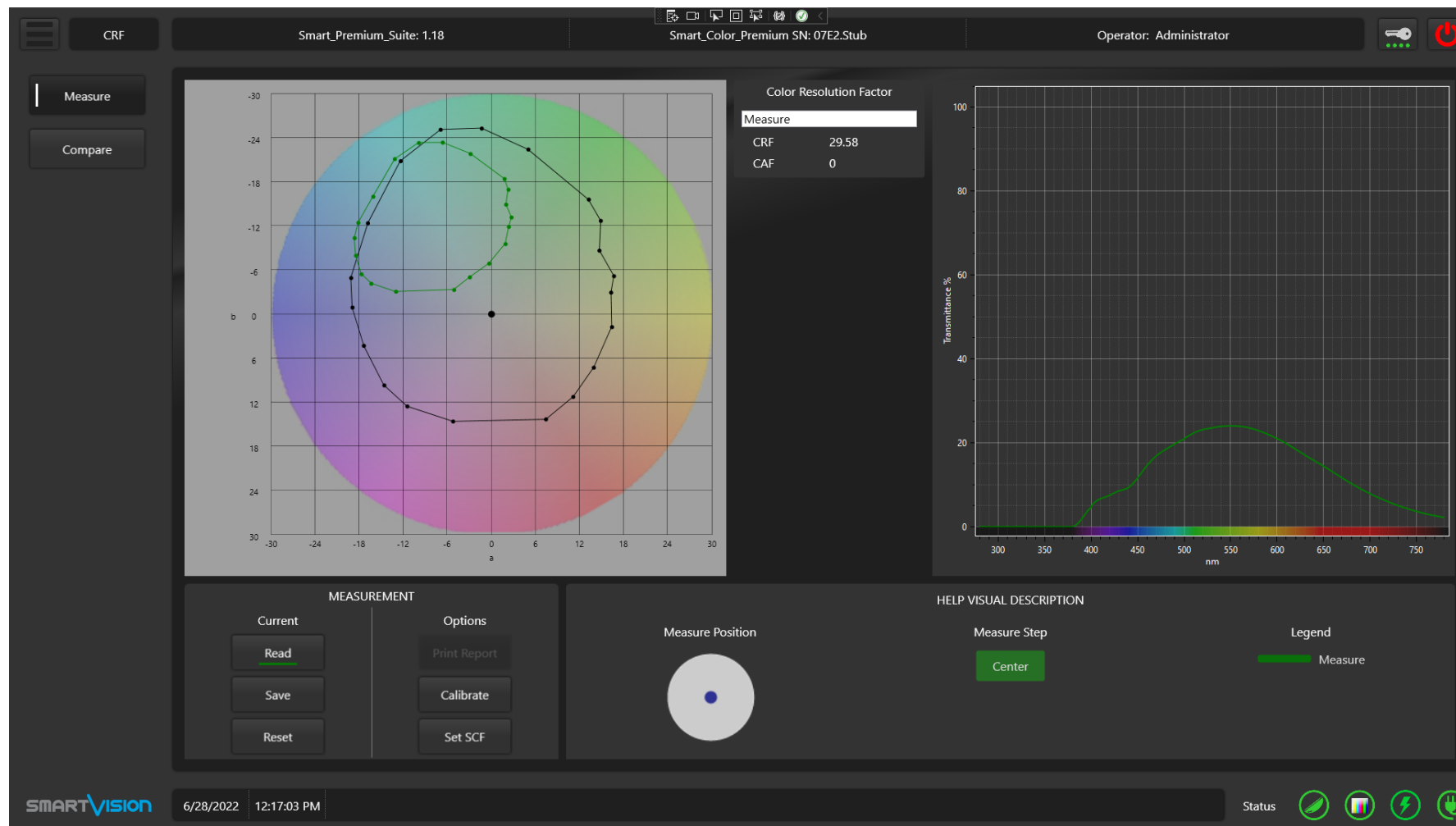


CRF outcome: High Color Contrast
CAF outcome: High Color Accuracy



Smart_Premium_Suite | New Optional Features

New Color Resolution Measurement and Comparison for Smart_Premium_Suite



Blue Light Hazard Mode: GB/T 38120

NEW

Table 2 The requirements for light transmittance of blue light protective film

Spectral range λ /nm	Requirement for Light transmittance
$385 \leq \lambda < 415$	<75%
$415 \leq \lambda < 445$	$\leq 80\%$
$445 \leq \lambda < 475$	>80%
$475 \leq \lambda < 505$	>80%

- ▶ Automatic check of Requirements for Light Transmittance

Blue Light Hazard Mode: ISO 4007

NEW

3.10.1.37

optical radiation transmittance

DEPRECATED: blue-light hazard transmittance

τ_{AOR}

<artificial source of *optical radiation*>normalized value of the *spectral transmittance* (3.10.1.22) averaged between 300 nm and 700 nm, weighted by the *blue-light hazard* (3.1.7) function

Note 1 to entry: The *optical radiation transmittance* for artificial radiation sources is usually expressed as a percentage and calculated from the following formula:

$$\tau_{AOR} = 100 \times \frac{\int_{300}^{700} \tau(\lambda) \cdot B(\lambda) \cdot d\lambda}{\int_{300}^{700} B(\lambda) \cdot d\lambda}$$

where

λ is the wavelength in nanometres;

$\tau(\lambda)$ is the *spectral transmittance* of the lens or filter;

$B(\lambda)$ is the *blue-light hazard* function.

➤ Automatic calculation of:

- T_{AOR}
- T_{AOR} / T_V

➤ Threshold customization for:

- T_{AOR}
- T_{AOR} / T_V

Blue Light Hazard Mode: ISO 18526-2

NEW

9.2 Blue-light transmittance from artificial sources

9.2.1 Calculation of blue-light transmittance from artificial sources from spectral values

See ISO 4007:2018, 3.10.1.36. See also [C.3.3.2](#).

The values of $B(\lambda)$ are given in [Table D.1](#).

➤ Automatic calculation of:

- T_B
- T_B / T_V

➤ Threshold customization for:

- T_B
- T_B / T_V

3.10.1.36 blue-light transmittance

τ_B
<artificial source of optical radiation>normalized value of the *spectral transmittance* ([3.10.1.22](#)) averaged between 380 nm and 500 nm, weighted by the *blue-light hazard* ([3.1.7](#)) function

Note 1 to entry: The *blue-light transmittance* for artificial radiation sources is usually expressed as a percentage and calculated from the following formula:

$$\tau_B = 100 \times \frac{\int_{380}^{500} \tau(\lambda) \cdot B(\lambda) \cdot d\lambda}{\int_{380}^{500} B(\lambda) \cdot d\lambda}$$

where

- λ is the wavelength in nanometres;
- $\tau(\lambda)$ is the *spectral transmittance* of the lens or filter;
- $B(\lambda)$ is the *blue-light hazard* function.

Smart_Premium_Suite | New Optional Features

Blue Light Hazard Mode: Software



The screenshot displays the 'Blue Light Hazard' software interface. At the top, it shows the device information: 'Smart_Premium_Suite: 1.24 SN: 07E7.0001' and 'Smart_Color_Pro SN: 07E6.0002', along with the operator 'SuperUser SuperUser'. The interface is divided into several sections:

- Left Panel:** Contains 'Solid Tint' and 'Gradient' options.
- Standards Section:** Lists three standards with green checkmarks: GB 38120 (China flag), ISO 4007 (EU flag), and ISO 18526-2 (EU flag).
- Measurement Data:** Shows 'GB 38120:2019 Center' with a table of light transmittance values:

Light T	Value
Light T 385 415	0.62
Light T 415 445	58.27
Light T 445 475	89.40
Light T 475 505	90.02
- Graph:** A line graph showing 'Transmittance %' on the y-axis (0 to 100) and wavelength 'nm' on the x-axis (300 to 700). A green curve shows low transmittance until approximately 400 nm, then rises sharply to about 90% transmittance by 450 nm, remaining high through 700 nm.
- Bottom Section:** Includes 'MEASUREMENT' controls (Lens: Read, Save; Options: Reset, Print Report, Calibrate), 'LTR Position' and 'Measure Position' diagrams, 'HELP VISUAL DESCRIPTION' (Measure Step: Center), and a 'Legend' showing a green line for 'Center'.
- Footer:** Displays the SMARTVISION logo, date '6/21/2023', time '10:02:07 AM', and a 'Status' section with several icons.

Smart_Premium_Suite | New Optional Features

Blue Light Hazard Mode: Report



Solid Tint Blue Light Hazard Conformity Report

Lens Code: <input type="text"/> Production Line: <input type="text"/> Operator: SuperUser SuperUser Base: <input type="text"/> Note: <input type="text"/> Info: <input type="text"/>	Date: 6/20/2023 Time: 2:36 PM Equipment: Smart_Color_Pro 1.24 S/N: 07E6.0002																																									
<p style="text-align: center;">Chinese National Standard GB/T 38120-2019</p> <p>VISIBLE SPECTRAL RANGE Light Transmittance</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">385 ≤ λ < 415</td> <td style="width: 10%;">1.93 %</td> <td style="width: 10%;"><</td> <td style="width: 10%;">75 %</td> <td style="width: 10%; text-align: center;">PASS</td> </tr> <tr> <td>415 ≤ λ < 445</td> <td>58.96 %</td> <td>≤</td> <td>80 %</td> <td style="text-align: center;">PASS</td> </tr> <tr> <td>445 ≤ λ < 475</td> <td>87.91 %</td> <td>></td> <td>80 %</td> <td style="text-align: center;">PASS</td> </tr> <tr> <td>475 ≤ λ < 505</td> <td>88.50 %</td> <td>></td> <td>80 %</td> <td style="text-align: center;">PASS</td> </tr> </table>	385 ≤ λ < 415	1.93 %	<	75 %	PASS	415 ≤ λ < 445	58.96 %	≤	80 %	PASS	445 ≤ λ < 475	87.91 %	>	80 %	PASS	475 ≤ λ < 505	88.50 %	>	80 %	PASS	<p style="text-align: center;">International Standard ISO 4007:2018</p> <p>Luminous Transmittance (Tv) <input type="text" value="86.62"/> %</p> <p>VISIBLE SPECTRAL RANGE Optical Radiation Transmittance</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Taor</td> <td style="width: 10%;">68.05 %</td> <td style="width: 10%;">≤</td> <td style="width: 10%;">75 %</td> <td style="width: 10%; text-align: center;">PASS</td> </tr> <tr> <td>Taor / Tv</td> <td>0.79</td> <td>≤</td> <td>0.80</td> <td style="text-align: center;">PASS</td> </tr> </table>	Taor	68.05 %	≤	75 %	PASS	Taor / Tv	0.79	≤	0.80	PASS	<p style="text-align: center;">International Standard ISO 18526-2:2020</p> <p>Luminous Transmittance (Tv) <input type="text" value="86.62"/> %</p> <p>VISIBLE SPECTRAL RANGE Blue-Light Transmittance</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Tb</td> <td style="width: 10%;">68.22 %</td> <td style="width: 10%;">≤</td> <td style="width: 10%;">75 %</td> <td style="width: 10%; text-align: center;">PASS</td> </tr> <tr> <td>Tb / Tv</td> <td>0.79</td> <td>≤</td> <td>0.80</td> <td style="text-align: center;">PASS</td> </tr> </table>	Tb	68.22 %	≤	75 %	PASS	Tb / Tv	0.79	≤	0.80	PASS
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<p>Spectral Transmittance</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <caption>Approximate data from Spectral Transmittance graph</caption> <thead> <tr> <th>Wavelength (nm)</th> <th>Transmission (%)</th> </tr> </thead> <tbody> <tr><td>270</td><td>0</td></tr> <tr><td>395</td><td>0</td></tr> <tr><td>420</td><td>0</td></tr> <tr><td>445</td><td>85</td></tr> <tr><td>470</td><td>85</td></tr> <tr><td>500</td><td>85</td></tr> <tr><td>550</td><td>85</td></tr> <tr><td>600</td><td>85</td></tr> <tr><td>650</td><td>85</td></tr> <tr><td>700</td><td>85</td></tr> <tr><td>770</td><td>85</td></tr> </tbody> </table>			Wavelength (nm)	Transmission (%)	270	0	395	0	420	0	445	85	470	85	500	85	550	85	600	85	650	85	700	85	770	85																
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770	85																																									



- ▶ Spectrophotometer for Colour Coating check
- ▶ Complete Check of Color Differences Δe , L^* , A^* , comparing to a master lens
- ▶ Smart_Probe Holding System
- ▶ Extended user management
- ▶ Pass/Fail Result With Reflection Graph
- ▶ According to International Standard ISO 12312-1 (FullLens version) & ISO 8980-4 (Surface version)
- ▶ Continuous Auto-calibration
- ▶ Spectrum Stability Continuous Control



- Easily checks reflecting surfaces in few seconds
- Camera System that allows to measure surfaces with high reflectance
- Ideal for small details analysis
- Live View of the test area
- Modifiable Region of Interest
- No external light influence
- Digital Master Automatic Creation and Storage
- **NEW** SmartVision Cloud Service
- Easy-to-use and Ergonomic, perfect for placing items with different shapes

Smart_PhotoChromicActivator



- ▶ Photochromic Lens Activation on UV + Visible Spectral Range
- ▶ Light Activation Spectral Range conforming to ISO 12311:2013
- ▶ High Uniformity of Activated Area
- ▶ Embedded Microprocessor Controller
- ▶ Embedded Color Touch Screen Display
- ▶ Adjustable Activation Time (Protected by Password)
- ▶ Adjustable Light Power Density (Protected by Password)
- ▶ Upper housing door for Lens under test with Closing Sensor, interrupt emission when open
- ▶ Beeper: Acoustic Signal for Operator
- ▶ Self-centering base for a correct lens position
- ▶ Rugged, Static, Fanless, Compact and Easy-to-use Device

Smart_PhotoChromicActivator Large

NEW



- ▶ UV & Visible Photochromic Lens Activator
- ▶ Stand-alone, Compact, Easy-to-Use Device
- ▶ Suitable to activate lenses of different shapes (max Ø 80 mm)
- ▶ Mechanical System for centering circular Lenses
- ▶ Activation light covers the spectral range as requested by the International Standards
- ▶ Customizable activation time
- ▶ Acoustic Signal at the end of the process
- ▶ The operator is always protected by the activation light
- ▶ Activation Chamber protects the operator from Artificial Optical Radiation (AOR)
- ▶ Interlock system stops activation process if Activation Chamber is open
- ▶ Ozone-free

SunLight_Reference_Source

NEW



Large



- ▶ Reference Light Panel with Leds for surface and lenses color visual inspection
- ▶ Selectable light source: D65 or D50 or both sources
- ▶ Variable light intensity: to better adapt it to the transmittance of the analyzed lenses
- ▶ Warming up indicator: the control system indicates when the light source is ready for use
- ▶ High quality and stability of led source
- ▶ Unique device to analyze light and dark lenses
- ▶ Greater fidelity in color reproduction than the competitor devices
- ▶ Two Models Available



- ▶ Automatic Uniformity Tester
- ▶ Solid Tint and Gradient Filters
- ▶ Automatic Filters Category Detection
- ▶ Small Head and Big Head Testing
- ▶ Contactless System Measure
- ▶ Very Fast and Objective Measurements
- ▶ Excel and Pdf Data Report
- ▶ **NEW** QFactor Analysis & Alignment markers
- ▶ **NEW** SmartVision Cloud Service
- ▶ Standard ISO 12312-1, GB 39552.1, EN 174, ISO 16321-1, ISO 18527-1, ANSI Z80.3-2018

Double_Autocentering_Lens_Holder

NEW



- ▶ Auto-centering tool for lens control up to $\varnothing 90$ mm
- ▶ Simultaneous control of two lenses of different sizes
- ▶ Independent locking system of the two lenses
- ▶ Easy locking and unlocking system
- ▶ Plug-and-play, Easy-to-use
- ▶ Available for Easy_Tester_Pro & Smart_Tester

Smart_HeadForm - *New Version 03*

NEW



- ▶ Compliance with the Standard ISO 18526-4: 2018 Type 1-S, 1-M, 2-M
- ▶ Suitable for checks according to chinese Standard GB/T 39552.1:2020 (Smart_Tester)
- ▶ Larger size of the Orbital cavity
- ▶ New adapter support for SkiGoggle
- ▶ Optional Multi-device accessory for:
 - Easy_Tester_Pro
 - Smart_Polar
 - Smart_Tester
 - Smart_OptiBench (with apposite support)
 - Universal_Tester (with apposite support)



- ▶ Polarization Axis & Uniformity Tester
- ▶ Smart_Headform compliant with the Standard ISO 18526-4:2018 Type 1-M
- ▶ Live-View of Whole Spectacle for perfect alignment in as-worn position
- ▶ Fast: measure uniformity of transmittance and polarization axis in parallel
- ▶ Static: there are no moving parts
- ▶ In-Line Application Capability
- ▶ Wide Range of Smart Tools (Option)
- ▶ Test according to ISO 12312-1, GB 39552.1, EN 174, ISO 16321-1, ISO 18527-1, ANSI Z80.3-2018
- ▶ **NEW** QFactor Analysis & Alignment markers
- ▶ **NEW** SmartVision Cloud Service

Signal Light Check - *Optional Software Feature*

7.10 SN: 07E6.0008 Model: ----- Operator: Administrator

GLASSES GRADIENT UNIFORMITY REPORT ISO 12312-1 ISO 16321-1 GB 39552.1

LEFT RIGHT

GRADIENT GRADIENT

COLOR COLOR

QFACTOR QFACTOR

3 / 2 3 / 2

FILTER CATEGORY UNIFORMITY DIFFERENCE UNIFORMITY FILTER CATEGORY

UP				CENTER	DOWN			
LEFT LENSE					RIGHT LENSE			
PASS	PASS	PASS	PASS	ISO12312-1	PASS	PASS	PASS	PASS
PASS	PASS	FAIL	PASS	ISO16321-1	PASS	PASS	FAIL	PASS
PASS	PASS	PASS	PASS	GB39552.1	PASS	PASS	PASS	PASS
QRed	QGreen	QBlue	QYellow		QRed	QGreen	QBlue	QYellow

TEST RESULT: ✗ VERTICAL HORIZONTAL QFACTOR COLOR

Status

- ▶ Available for:
 - Easy_Tester_Pro
 - Smart_Tester
 - Universal_Tester
- ▶ QFactor estimation and check with:
 - ISO 12312-1
 - GB 39552.1
 - ISO 16321

Signal Light Check - *Optional Software Feature*

SMARTVISION
IN LINE QUALITY

QFACTOR REPORT

Model Name: ---	Date: 1/30/2023	
Lens CODE: ---	Time: 17:25	
Lens TYPE: ---	Equipment: E_T_P_GLASSES	
Supplier: ---	S/N: 07E6.0008	
Lot: ---		
Operator: Administrator		

Qfactor ISO 12312-1 2013			
LEFT	Tol	RIGHT	Tol
QRed	Min≥ 0.80 PASS	QRed	Min≥ 0.80 PASS
QGreen	Min≥ 0.60 PASS	QGreen	Min≥ 0.60 PASS
QBlue	Min≥ 0.60 PASS	QBlue	Min≥ 0.60 PASS
Qyellow	Min≥ 0.60 PASS	Qyellow	Min≥ 0.60 PASS

ISO 16321-1 2022			
LEFT	Tol	RIGHT	Tol
QRed	Min≥ 0.80 PASS	QRed	Min≥ 0.80 PASS
QGreen	Min≥ 0.80 PASS	QGreen	Min≥ 0.80 PASS
QBlue	Min≥ 0.80 PASS	QBlue	Min≥ 0.80 PASS
Qyellow	Min≥ 0.80 PASS	Qyellow	Min≥ 0.80 PASS

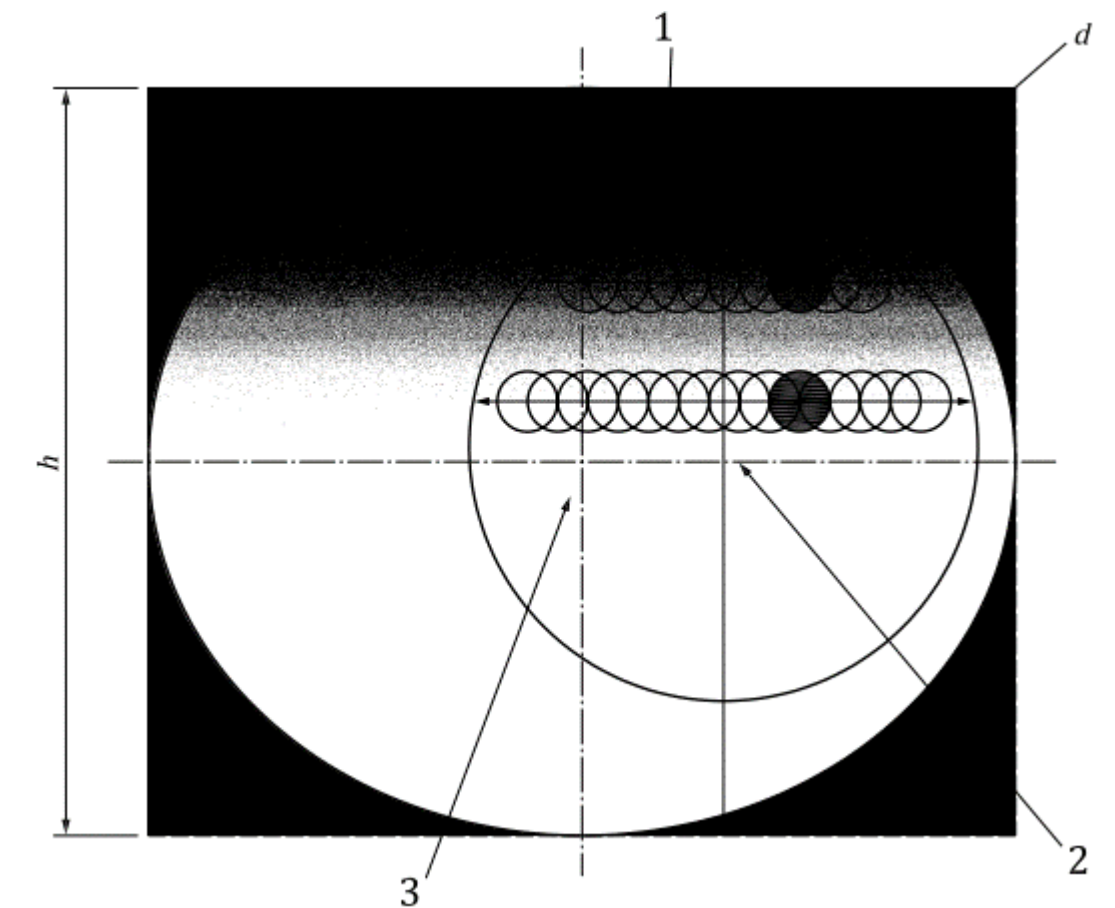
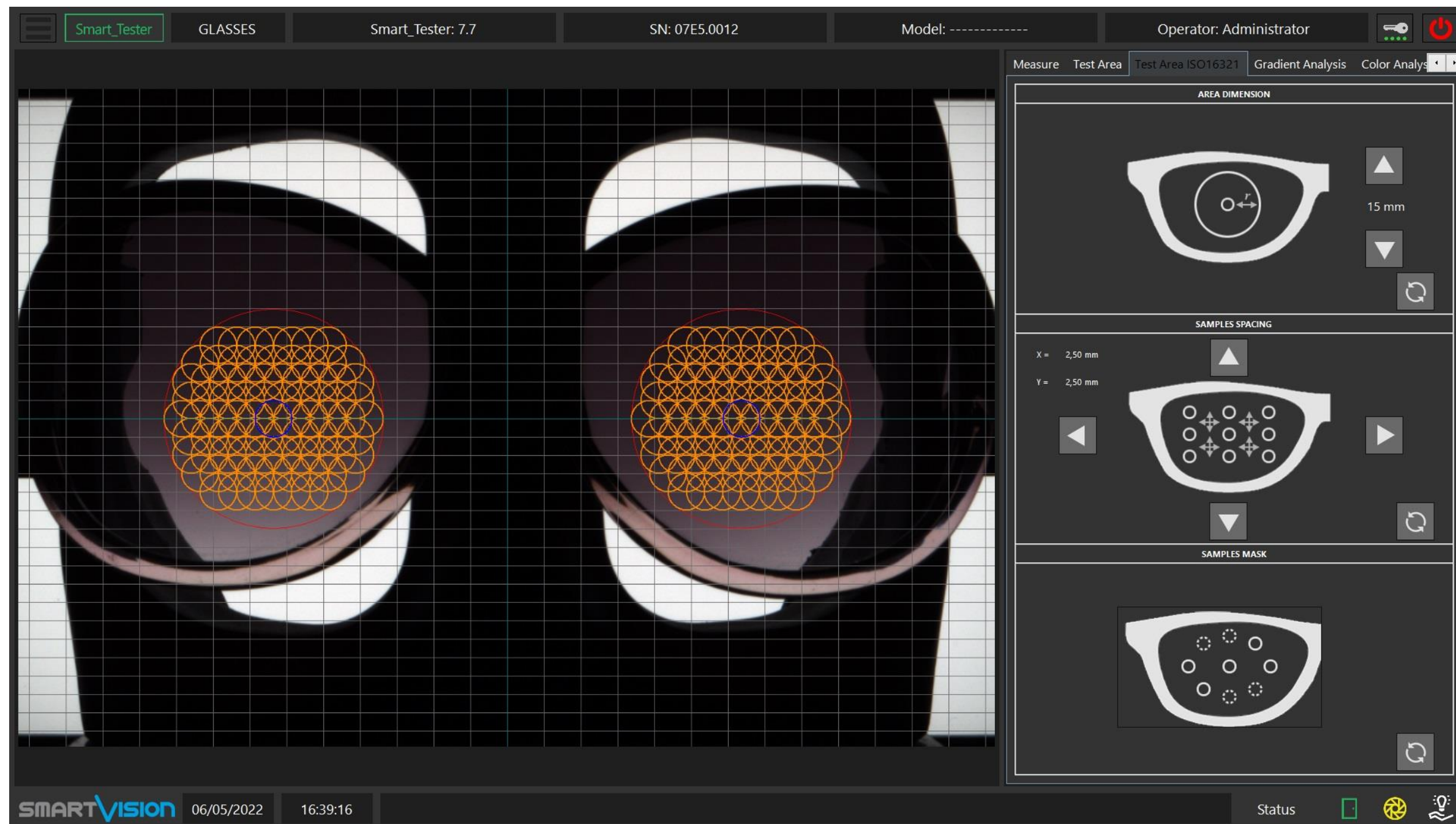
GB/T 39552.1			
LEFT	Tol	RIGHT	Tol
QRed	Min≥ 0.80 PASS	QRed	Min≥ 0.80 PASS
QGreen	Min≥ 0.60 PASS	QGreen	Min≥ 0.60 PASS
QBlue	Min≥ 0.60 PASS	QBlue	Min≥ 0.60 PASS
Qyellow	Min≥ 0.60 PASS	Qyellow	Min≥ 0.60 PASS

Automatic PDF report

Qfactor ISO 12312-1 2013			
LEFT	Tol	RIGHT	Tol
QRed	Min≥ 0.80 PASS	QRed	Min≥ 0.80 PASS
QGreen	Min≥ 0.60 PASS	QGreen	Min≥ 0.60 PASS
QBlue	Min≥ 0.60 PASS	QBlue	Min≥ 0.60 PASS
Qyellow	Min≥ 0.60 PASS	Qyellow	Min≥ 0.60 PASS

Easy_Tester_Pro_Suite | New Optional Features

New “ISO 16321-1 International Standard” – Option for Measurement of uniformity of luminous transmittance in accordance to ISO 18526-2 Paragraph 7.4



Easy_Tester_Pro_Suite | New Optional Features

New "ISO 16321-1 International Standard" – Option for Measurement of uniformity of luminous transmittance in accordance to ISO 18526-2 Paragraph 7.4

Report Parameters

Model name: _____
 Lens CODE: _____
 Lens TYPE: _____
 Supplier: _____
 Production Lot: _____
 Operator: SuperUser SuperUser
 Notes: _____

GLASSES GRADIENT UNIFORMITY REPORT

ISO 12312-1 | ISO 16321-1 | GB 39552.1

Operator: SuperUser SuperUser

LEFT | RIGHT

3 / 2 | UNIFORMITY | DIFFERENCE | UNIFORMITY | 3

τ_{REF LEFT} = 15,5 % Δτ_{LR} = 11,2 % τ_{REF RIGHT} = 13,7 %

Δτ_{LEFT} = 4,3 % LIMIT: 10,0 % ISO 12312-1
 5,2 % LIMIT: 10,0 % ISO 16321-1
 5,0 % LIMIT: 10,0 % GB 39552.1

Δτ_{RIGHT} = 24,8 % LIMIT: 10,0 % ISO 12312-1
 23,5 % LIMIT: 10,0 % ISO 16321-1
 25,0 % LIMIT: 10,0 % GB 39552.1

TRANSMITTANCE VALUES TEST RESULT: [Red X]

Exit Print report

SMARTVISION 09/05/2022 09:17:18 Status

SMARTVISION IN LINE QUALITY

GLASSES GRADIENT UNIFORMITY REPORT for ISO 16321-1:2021(E)

Model Name: --- Date: 5/9/2022
 Lens CODE: --- Time: 9:17 AM
 Lens TYPE: ---
 Supplier: ---
 Lot: ---
 Operator: SuperUser SuperUser

Equipment: E_T_P_GLASSES
 S/N: 07E5.0012

SMARTVISION

LEFT | RIGHT

Left Filter Test Difference Filter Test Right Filter Test

τ_{LEFT} = 15.5 % τ_{RIGHT} = 13.7 %

Δτ_{LEFT} = 5.2 % Δτ_{LR} = 11.2 % Δτ_{RIGHT} = 23.5 %

LIMIT : 10 % LIMIT : 15 % LIMIT : 10 %

Left Filter Category Right Filter Category

3 / 2 3 /

Notes: ---

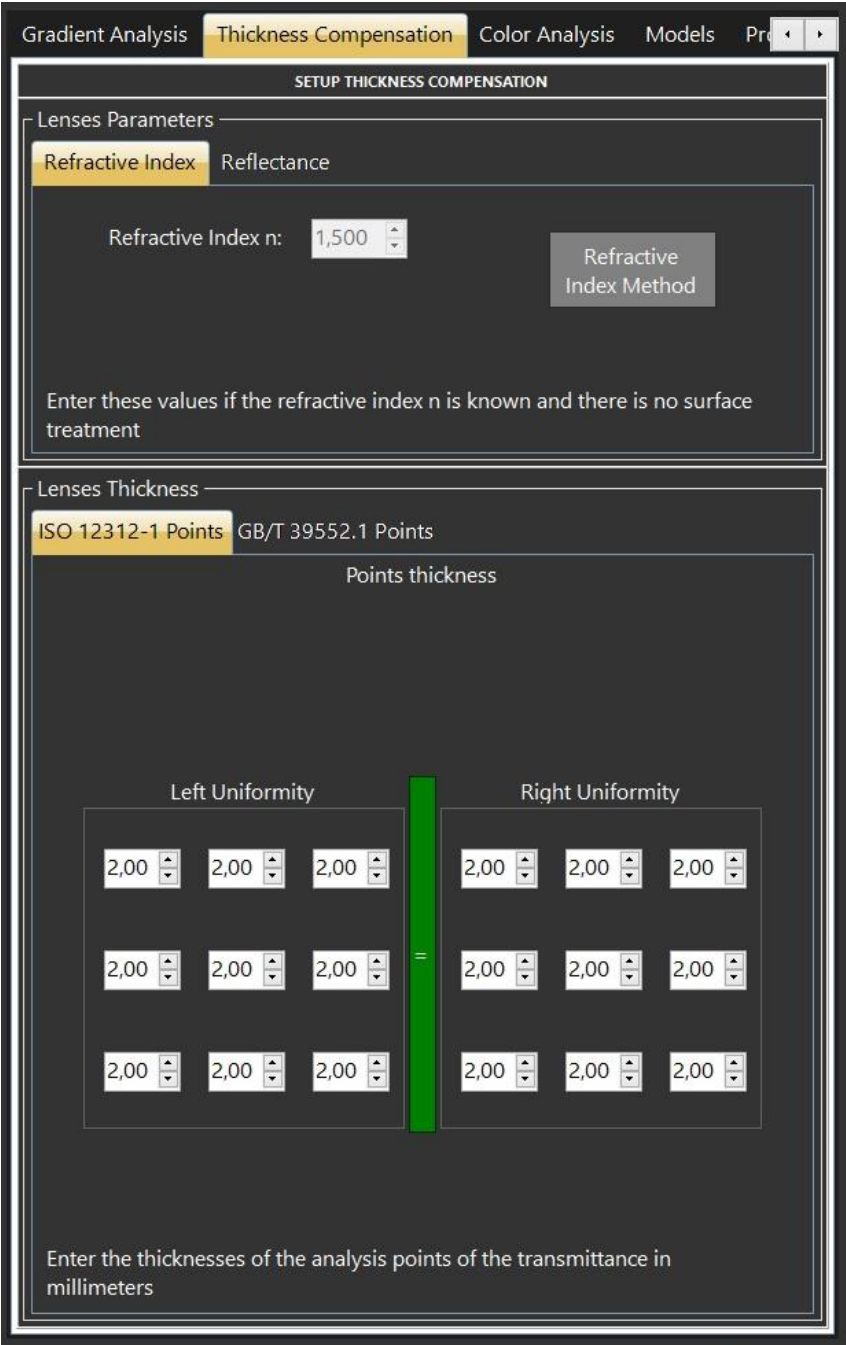
Easy_Tester_Pro_Suite | New Optional Features

New “Alignment markers” – Option for display markers on the image to check the alignment of the glasses and its correct registration

The screenshot displays the 'GLASSES GRADIENT UNIFORMITY REPORT' interface. The top navigation bar includes 'GLASSES', 'Easy_Tester_Pro: 7.8', 'SN: 07E6.0002', 'Model: -----', 'Operator: SuperUser SuperUser', and utility icons for key, help, and power. The main area is divided into a 'Report Parameters' sidebar on the left and a central lens analysis area. The sidebar contains fields for Model name, Lens CODE, Lens TYPE, Supplier, Production Lot, Operator (SuperUser SuperUser), and Notes. The central area shows two lens images labeled 'LEFT' and 'RIGHT'. Each lens image has four alignment markers (orange and blue dots) and a central blue circle. Below each lens image are status indicators: a green box with '3', a green checkmark in a circle, a green checkmark in a circle, and a yellow box with '3 / 2'. The bottom section of the report displays transmittance values and test results for both lenses, including reference transmittance (τ_{REF}), difference ($\Delta\tau$), and limits for ISO 12312-1, ISO 16321-1, and GB 39552.1 standards. A large green checkmark indicates a successful test result. The bottom status bar shows the SMARTVISION logo, date (6/6/2022), time (5:45:51 PM), and status icons.

Easy_Tester_Pro_Suite | New Optional Features

New "Thickness Compensation" – Option for Easy_Tester_Pro Software Only



Easy_Tester_Pro_Suite | New Optional Features

New "Color Matching Check" – Software Option for Easy_Tester_Pro Software Only

LENSSES Smart_Tester: 7.2 SN: 07E4.0001 Model: ----- Operator: SuperUser SuperUser

Report Parameters

Model name: _____
 Lens CODE: _____
 Lens TYPE: _____
 Supplier: _____
 Production Lot: _____
 Operator: SuperUser SuperUser
 Notes: _____

LENS GRADIENT ISO 12312-1 UNIFORMITY REPORT

LEFT RIGHT

2 / 3 2 / 3

$T_{\text{ref LEFT}} = 18.9\%$ $\Delta\tau_{\text{left}} = 4.0\%$ $T_{\text{ref RIGHT}} = 18.2\%$ $\Delta\tau_{\text{right}} = 7.4\%$

TEST RESULTS

SMARTVISION IN LINE QUALITY

Model Name: --- Date: 12/03/2020
 Lens CODE: --- Time: 15:10
 Lens TYPE: ---
 Supplier: ---
 Lot: ---
 Operator: SuperUser SuperUser Equipment: E_T_LENSES S/N: 07E3.0019

SMARTVISION

CIE Lab Settings
 Observer Degree: 2
 Data Type: CIE DMC
 Illuminant: D
 Temperature: 85

POINT UP

Value	Threshold
ΔL -28.4 FAL	-20 $\Delta L \leq 20$
Δa -15.2 FAL	-20 $\Delta a \leq 20$
Δb -9.5 FAL	-20 $\Delta b \leq 20$
ΔE 78.4 FAL	-20 $\Delta E \leq 20$

POINT CENTER

Value	Threshold
ΔL -90.0 FAL	-20 $\Delta L \leq 20$
Δa -12.4 FAL	-20 $\Delta a \leq 20$
Δb -10.0 FAL	-20 $\Delta b \leq 20$
ΔE 85.6 FAL	-20 $\Delta E \leq 20$

POINT DOWN

Value	Threshold
ΔL -20.7 FAL	-20 $\Delta L \leq 20$
Δa -8.5 FAL	-20 $\Delta a \leq 20$
Δb -10.2 FAL	-20 $\Delta b \leq 20$
ΔE 28.6 FAL	-20 $\Delta E \leq 20$

Easy_Tester_Pro_Suite | New Optional Features



New "Gradient Profile Check" – Software Option Easy_Tester_Pro Software Only

LENSSES Smart_Tester: 7.2 SN: 07E4.0001 Model: ----- Operator: SuperUser SuperUser

Measure Test Area **Gradient Analysis** Color Analysis Models Product

SETUP GRADIENT ANALYSIS

Points Diameter (mm) 1

VERTICAL **Enabled**

Points Number 11

Points Distance (mm) 2

Transmittance Threshold (%) 5

HORIZONTAL **Enabled**

Points Number 4

Rows Number 5

Points Distance (mm) 2

Transmittance Threshold (%) 5

SMARTVISION 16/11/2020 11:40:15 Status

SMARTVISION GRADIENT VERTICAL REPORT

Model Name: --- Date: 16/11/2020
Lens CODE: --- Time: 10:07
Lens TYPE: ---
Supplier: ---
Lot: --- Equipment: E_T_EN100
Operator: SuperUser SuperUser S/N: 07E4.0001

Distance (mm) vs Transmittance (%) graph showing Left and Right curves.

Distance (mm)	Left Transmittance (%)	Right Transmittance (%)	Reference (%)
10.0	10.0	44.0	44.7
20.0	10.0	44.7	44.7
30.0	10.0	45.6	45.6
40.0	10.0	47.3	47.3
50.0	22.7	48.3	48.3
60.0	26.3	50.1	50.1
70.0	26.1	50.6	50.6

$\Delta\tau_{MAX} = 315\%$
LIMIT = 20%
VERTICAL CHECK **FAIL**

SMARTVISION GRADIENT HORIZONTAL REPORT

Model Name: --- Date: 16/11/2020
Lens CODE: --- Time: 10:07
Lens TYPE: ---
Supplier: ---
Lot: --- Equipment: E_T_EN100
Operator: SuperUser SuperUser S/N: 07E4.0001

Distance (mm) vs Transmittance (%) bar chart.

Distance (mm)	Left 1 (%)	Right 1 (%)	Left 2 (%)	Right 2 (%)	Left 3 (%)	Right 3 (%)	Left 4 (%)	Right 4 (%)	Left 5 (%)	Right 5 (%)
10.0	11.0	44.1	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2
20.0	16.3	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4
30.0	22.7	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2
40.0	26.3	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6
50.0	27.7	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3
60.0	26.1	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3
70.0	26.1	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3

$\Delta\tau_{MAX} = 313\%$
LIMIT = 20%
HORIZONTAL CHECK **FAIL**

Smart_PhotoChromic_Device for Smart_Tester

NEW



- ▶ HW/SW Solution designed for use with Smart_Tester
- ▶ UV & Visible Automatic Photochromic Lens Activator
- ▶ Suitable to Activate SunGlasses of Different Shapes
- ▶ UV-VIS Spectral Range 300-500 nm as required ISO 18526-2
- ▶ Integrated Software on Smart_Tester for Automatically Activation Process & Measurement
- ▶ Customizable Activation Time
- ▶ Automatic Interlock System to Stop the Activation Process if Measuring Chamber is open



SMARTVISION
IN LINE QUALITY

POLAR CHECK ISO 12312-1 REPORT

Model Name: ---	Date: 19/06/2020	SMARTVISION IN LINE QUALITY
Lens CODE: ---	Time: 15:06	
Lens TYPE: ---		
Supplier: ---		
Lot: ---		
Operator: Administrator	Equipment: Smart_Polar	
	S/N: 07E4.0002	

LEFT RIGHT

Left Filter Test Difference Filter Test Right Filter Test

$\alpha_{left} = -14^\circ$ $\Delta\alpha_{diff} = 13^\circ$ $\alpha_{right} = -02^\circ$

LIMIT : 5 ° LIMIT : 6 ° LIMIT : 5 °

Notes: ---

- ▶ Automatic Polarization Axis Tester according to ISO 12312-1 & GB 39552.1
- ▶ Fast: batch analysis of SunGlasses in 1 second
- ▶ Static: No moving parts
- ▶ Live-View of Whole Spectacle for perfect alignment in as-worn position
- ▶ Measurement independent of the type of lens (Solid Tint / Gradient)
- ▶ New Smart_Headform compliant with the Standard ISO 18526 4:2018 Type 1 M
- ▶ In-Line Application Capability
- ▶ Production Data Reporting
- ▶ Mandatory Production Data

Stress_Tester

NEW



- ▶ Automatic Stress Tester for check residual mechanical stress on SunLenses, SunGlasses, Masks & SkiGoggles
- ▶ Polarized Image in a Single Acquisition - Discover the not visible material properties
- ▶ Measurement independent of the type of lens (Solid Tint / Gradient)
- ▶ Live-View of Whole Spectacle for perfect alignment in as-worn position
- ▶ Objective: unrelated to any possibility of interpretation by the operator
- ▶ Fast analysis in few second
- ▶ Rugged & Static device without moving parts
- ▶ Smart_Headform compliant with the Standard ISO 18526-4:2018 Type 1-M

Smart_OptiBench_Pro

NEW



- ▶ High-performance Digital Bench
- ▶ Classification of the sunglasses
- ▶ Fast measuring time
- ▶ Resolution = $\pm 0,01$ D
- ▶ Prismatic Resolution = $\pm 0,002$ D
- ▶ Range +1D - 0,75D
- ▶ Full data Reports
- ▶ **NEW** SmartVision Cloud Service

Smart_OptiBench XXL



- ▶ Measure of Refractive Powers for afocal Sunlenses
- ▶ Spherical, Astigmatic and Prismatic Power
- ▶ Prismatic Balancing (for SunGlasses)
- ▶ Sunglasses Holding System (Adult & Children measurements)
- ▶ Compliance with main International Standards in Europe, Canada, Australia & New Zealand, America, Japan, China
- ▶ **NEW** SmartVision Cloud Service

Optical Powers

LENSES ANALYSIS				GLASSES ANALYSIS			
	Left		Right				
Spherical Power	0.047		0.014		Dioptres		
Astigmatic Power (PS All Meridians)	0.033	0.033	0.033	0.033	Dioptres		
Prismatic Power	0.098		0.039		Dioptres		
Prismatic Power X	-0.024		0.013		Dioptres		
Prismatic Power Y	0.095		-0.037		Dioptres		

	Spherical Power Left	Spherical Power Right	Astigmatic Power Left	Astigmatic Power Right	Prismatic Power Left	Prismatic Power Right	Differential Spherical Power	Differential Prismatic Power X	Differential Prismatic Power Y
ANSI Z80.3: 2018	PASS	PASS	PASS	PASS				PASS	PASS
AS/NZS 1067: 2016	PASS	PASS	PASS	PASS				PASS	PASS
GB 10810.1: 2006	PASS	PASS	PASS	PASS	PASS	PASS			
ISO-12312-1: 2015	PASS	PASS	PASS	PASS				PASS	PASS
JIS#T8147: 2016	PASS	PASS	PASS	PASS	PASS	PASS			

Optical Quality Left Lens

Quality	Good	Loss of Sharpness	10.0 %
Minimum Quality Factor	0.90	Loss of Contrast 100 c/mm	28.4 %

Best Focal Plane - Image

Best Focal Plane - MTF Minimum

Optical Quality Right Lens

Quality	Good	Loss of Sharpness	10.0 %
Minimum Quality Factor	0.90	Loss of Contrast 100 c/mm	28.4 %

Best Focal Plane - Image

Best Focal Plane - MTF Minimum

- The System can be configured with these measurement options:
 - Two types of Resolutions (Low/Standard)
 - Two types of Speed Motor (Standard/High)
 - Fast check mode (only « Pass / Fail » without optical power calculation)

- New measurement features:
 - Loss of Sharpness
 - Loss of Contrast @ 100 c/mm
 - Limits display for each measured quantity
 - Possibility to print the measurement report

Universal_Tester

NEW



- ▶ Polarization Axis & Uniformity & Refractive Power Tester
- ▶ Smart_Headform compliant with the Standard ISO 18526-4:2018 Type 1-M
- ▶ Live-View of Whole Spectacle for perfect alignment in as-worn position
- ▶ Fast: measure uniformity of transmittance and polarization axis in parallel
- ▶ Fast: automatic measurement of the Refractive Power with a single positioning of the glasses
- ▶ Automatic: complete report for all measurements performed
- ▶ Test according to ISO 12312-1, GB 39552.1, ISO 16321-1, EN 174, ISO 18527-1
- ▶ **NEW** QFactor Analysis & Alignment markers
- ▶ **NEW** SmartVision Cloud Service

Workstation / Functions Smart_Tester

- ▶ Live-View of Glasses for Right Alignment
- ▶ Transmittance Uniformity Check
- ▶ Category Filters Estimation and/or Check
- ▶ Absolute Transmittance Estimation of Filters
- ▶ Transmittance Left - Right Balance Check
- ▶ Qfactor Estimation
- ▶ Polarization Axis Check

Workstation / Functions Smart_OptiBench

- ▶ Spherical Power Check
- ▶ Astigmatic Power Check
- ▶ Prismatic Power Check
- ▶ Optical Powers Left - Right Balance Check

Universal_Tester | SW Feature

Smart_OptiBench Sub System Results

Smart_Tester Sub System Results

Universal_Tester GLASSES Universal_Tester: 8.1 SN: 07E7.0003 Model: ----- Operator: SuperUser SuperUser

Report Parameters

UNIVERSAL_TESTER REPORT

LENSES ANALYSIS

	LEFT	RIGHT	
Spherical Power	0,00	0,00	Dioptrés
Astigmatic Power (PS All meridians)	0,00 0,00	0,00 0,00	Dioptrés
Prismatic Power	0,00	0,00	Dioptrés
Prismatic Power X	0,00	0,00	Dioptrés
Prismatic Power Y	0,00	0,00	Dioptrés

	LEFT	RIGHT	
Differential Spherical Power	0,00		Dioptrés
Differential Prismatic Power X	0,00		Dioptrés
Differential Prismatic Power Y	0,00		Dioptrés

	Spherical Power		Astigmatic Power		Prismatic Power		Differential		
	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	Spherical Power	Prismatic Power X	Prismatic Power Y
ANSI Z80.3: 2018	PASS	PASS	PASS	PASS				PASS	PASS
AS/NZS 1067: 2016	PASS	PASS	PASS	PASS				PASS	PASS
GB/T 39552.1: 2020	PASS	PASS	PASS	PASS				PASS	PASS
ISO-12312-1: 2022	PASS	PASS	PASS	PASS				PASS	PASS
ISO-16321-1: 2021	PASS	PASS	PASS	PASS	PASS	PASS		PASS	PASS

Best Focal Plane Left

Best Focal Plane Right

Exit Print report

SMARTVISION 28/07/2023 15:56:14 Status

Universal_Tester GLASSES Universal_Tester: 8.1 SN: 07E7.0002 Model: ----- Operator: SuperUser SuperUser

Report Parameters

UNIVERSAL_TESTER REPORT

ISO 12312-1

LEFT RIGHT

3 3

UNIFORMITY AXIS DIFFERENCE AXIS UNIFORMITY

$\tau_{REF LEFT} = 15,1\%$
 $\Delta\tau_{LR} = 1,1\%$
 $\tau_{REF RIGHT} = 15,0\%$
 $\Delta\tau_{LEFT} = 10,5\%$ LIMIT: 15,0% ISO PASS LIMIT: 15,0% ISO $\Delta\tau_{RIGHT} = 12,9\%$ LIMIT: 15,0% ISO
 $\alpha_{LEFT} = 3,48^\circ$ LIMIT: $\pm 5,0^\circ$ $\Delta\alpha_{LR} = 4,88^\circ$ LIMIT: $6,0^\circ$ $\alpha_{RIGHT} = -1,40^\circ$ LIMIT: $\pm 5,0^\circ$

TRANSMITTANCE VALUES SUMMARY TEST RESULT

Exit Print report

SMARTVISION 22/06/2023 15:27:59 Status



- ▶ Lens Curve Radius and Base Meter
- ▶ Easy and fast Load / Unload of any part to be checked on the lateral window
- ▶ Live view window helps fast part positioning
- ▶ Capability to manually rotate the lens and quickly repeat measure to check sphericity and absence of unwanted cylinders
- ▶ High resolution analysis
- ▶ Production batch report
- ▶ Saves time and money in control tasks
- ▶ Static and Fanless with external PC

NEW

MEMO



- ▶ High Performance Lens Shape Testing Instrument
 - Full check cycle and full report output in few seconds
 - Full automatic traceability of all control activities
 - Traceability of any modification of the lens master
 - Works with clear-to-dark lenses
- ▶ New Software Suite with new Features
- ▶ OMA and DXF file import for Profile Matching
- ▶ Lens Shape Checks:
 - Automatic evaluation of lens shape
 - A/B axis length lens and holes check
 - Absolute position check of holes respect of the lens center
 - Automatic lens overlay with master profile
 - Comparative check with a master lens
 - Mirror Mode, check right/left lens using one master
- ▶ **NEW** SmartVision Cloud Service

Example of Lens Shape Check

Measures	Features	Nominal Values	Measured Values	Delta	Threshold	
A		61.501	61.515	0.014	0.030	0.030
B		45.575	45.582	0.007	0.030	0.030
Perimeter		179.656	179.672	0.016	0.100	0.100
Shape				0.013	0.100	0.100

Passed lens test

Full printable report

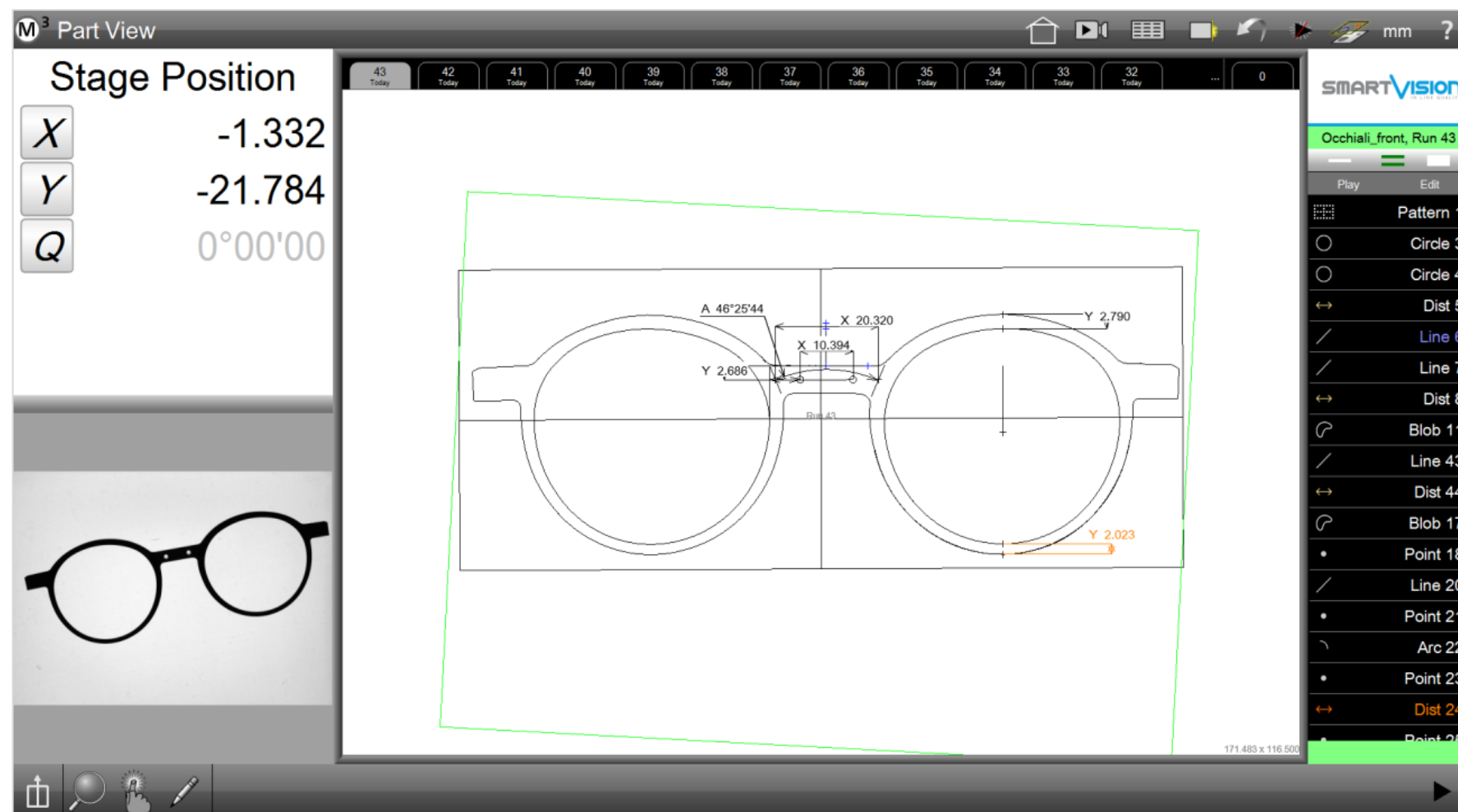
Smart_Shape_Premium



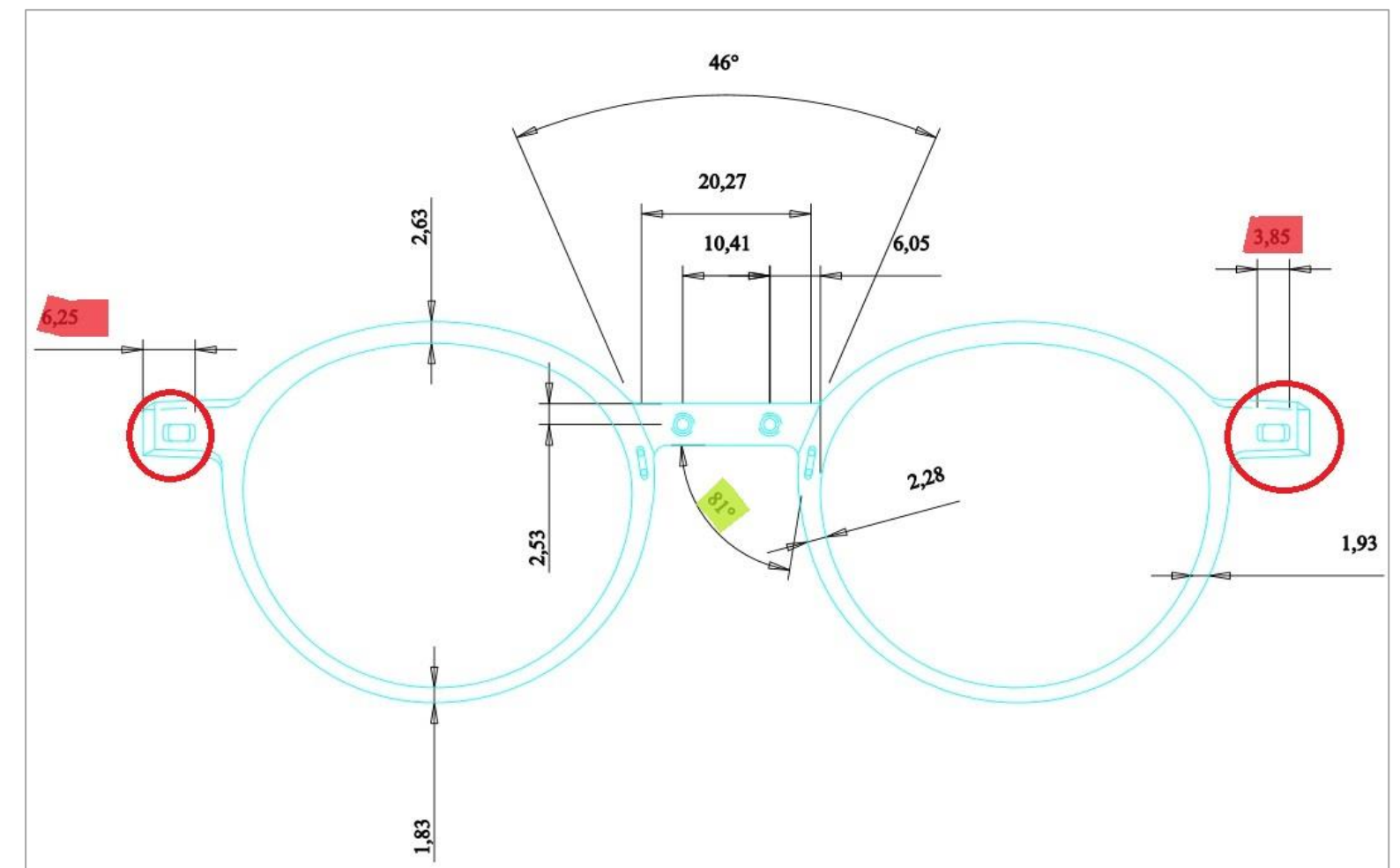
- ▶ Wide range solutions
- ▶ Automatic Lens Shape Control
- ▶ Perimeter Differential Check
- ▶ Automatic "A & B" Axis Length
- ▶ Comparative Check With A Master Lens
- ▶ Analysis Of Perimeter Shape
- ▶ Absolute Perimeter Control
- ▶ Lens Perimeter Length (Clock)
- ▶ Excel And Pdf Data Report
- ▶ Fast And Objective Measurements

Smart_Shape_Premium

Example of Frame Shape Dimensional Control



Software Live view



Technical draw

Smart_Shape_Premium - Available Models

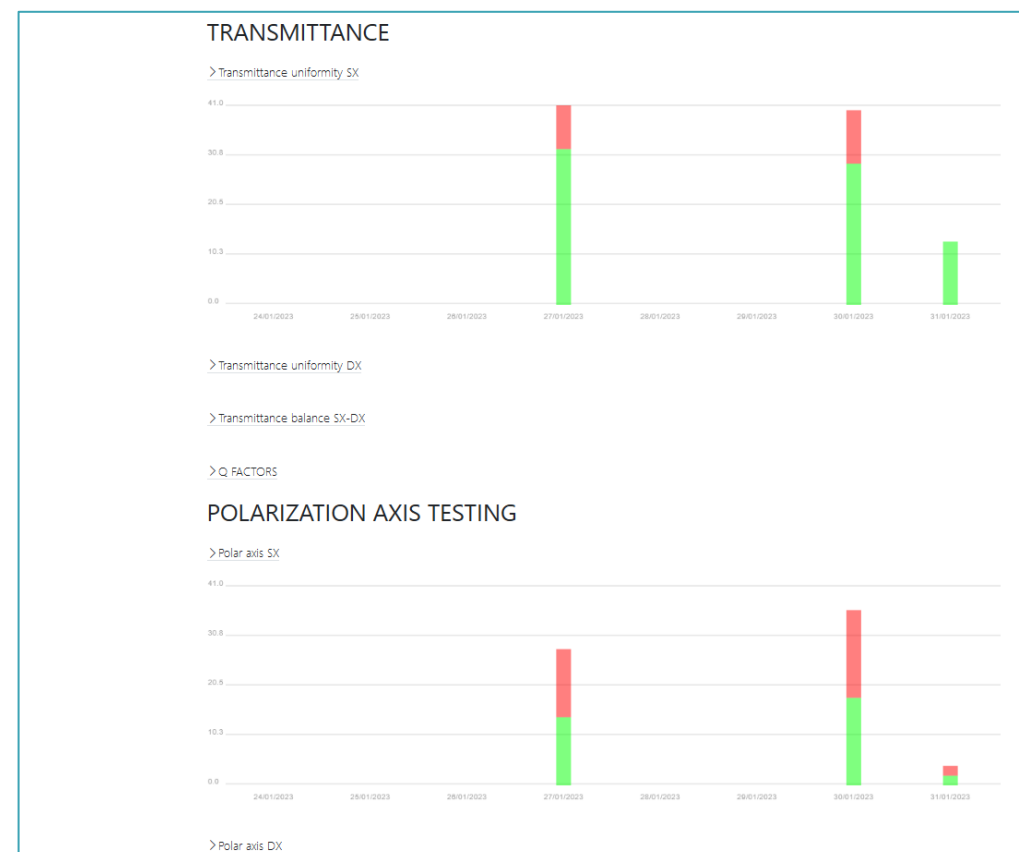
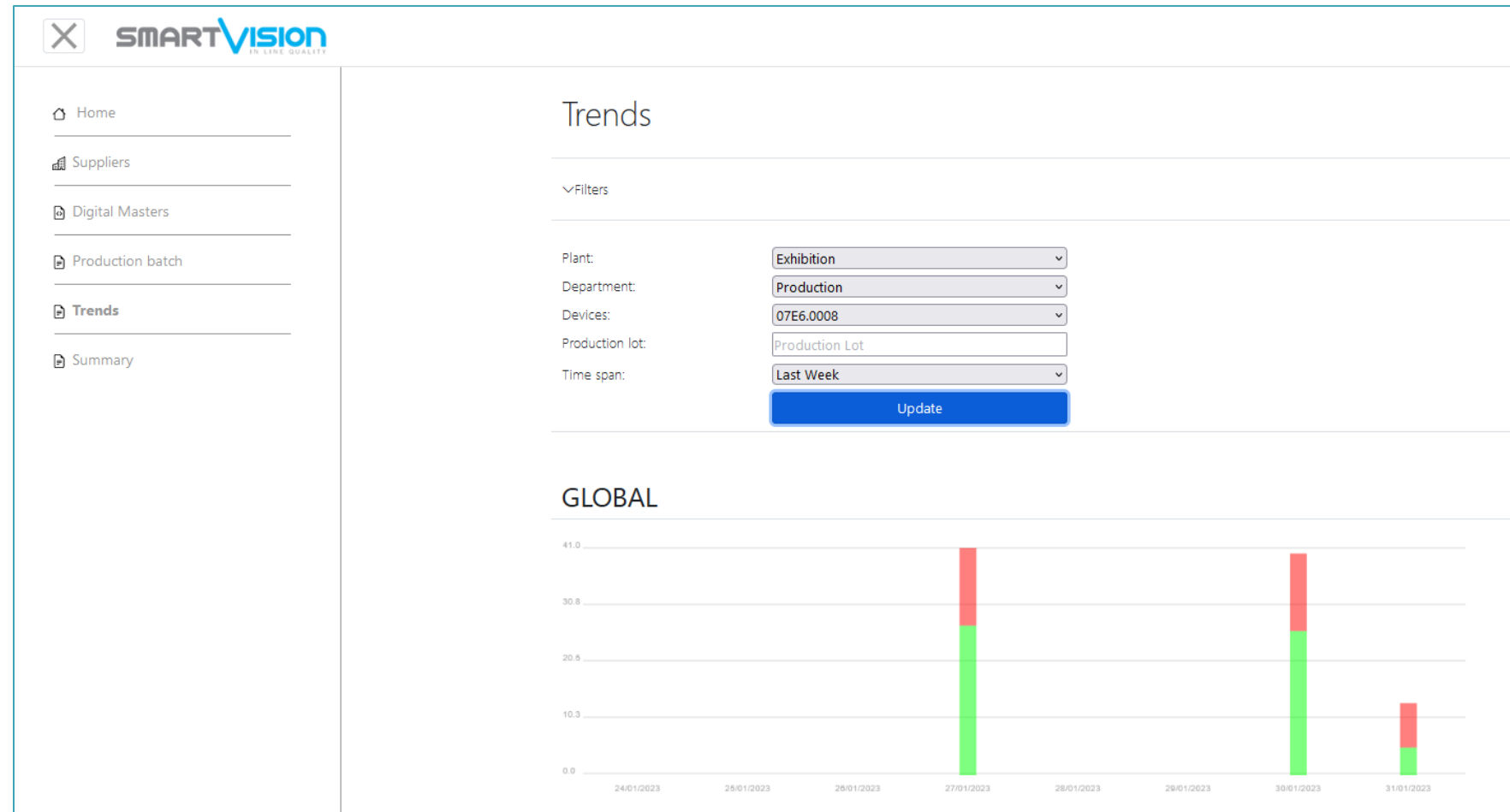
Feature	Smart_Shape_Premium @ 92	Smart_Shape_Premium @ 108 Lenses	Smart_Shape_Premium @ 168	Smart_Shape_Premium XXL
Layout	Vertical	Vertical	Vertical	Vertical
Field of View (FoV)	92 x 61 mm	108 x 73 mm	168 x 113 mm	200 x 150 mm
FoV Diagonal	100 mm	125 mm	195 mm	250 mm
Measuring Chamber	203 x 250 x 280 mm	200 x 230 x 240 mm	250 x 330 x 405 mm	419 x 456 x 475 mm
Repeatability	±1 µm	±1 µm	±1.5 µm	±5 µm
Accuracy	±6 µm	±6 µm	±8 µm	±20 µm
Diascopic Light	Directional	Collimated	Directional	Directional
Dimensions	290 x 330 x 880 mm	284 x 330 x 1255 mm	335 x 380 x 1255 mm	685 x 510 x 1813 mm
Weight	25 kg	45 kg	40 kg	140 kg

Smart_Shape_Pro vs Smart_Shape_Premium

Differences

Check / Features	Smart_Shape_Pro	Smart_Shape Premium
A + B	✓	✓
Shape	✓	✓
Custom Measures	✗	✓
Ease Modeling	✓	✗
Easy Positioning	✓	✓
Single Analysis	✓	✓
Programming	✓	✓
Automatic Report	✓	✓

SmartVision_Cloud_Service



➤ Automatic ProductionBatch Upload

➤ Available for:

➤ Easy_Tester_Pro

➤ Smart_Tester

➤ Easy_Color

➤ Smart_OptiBench

➤ Smart_Shape_Pro

➤ Universal_Tester

➤ Easy access through web application

SmartVision_Cloud_Service

The screenshot shows the SmartVision Summary dashboard. On the left is a navigation menu with options: Home, Suppliers, Digital Masters, Production batch, Trends, and Summary. The main content area is titled 'Summary' and contains a 'Filters' section with dropdown menus for Plant (Exhibition), Department (Production), Devices (07E6.0008), and Material. There are also input fields for Production lot, Start (24/01/2023), and End (31/01/2023), with an 'Update' button. Below the filters is a 'Summary' table:

Summary	
Start:	24/01/2023 00:00:00
End:	31/01/2023 23:59:59
Test PASS:	58
Test FAIL:	36
Total tests performed:	94

- Statistical data analysis by date, Production Lot, etc
- Possibility of data filtering by Plant, Department, Production Lot, etc
- Centralized analysis system independent of the IT architectures of the individual Departments / Plants

The screenshot shows the SmartVision dashboard for Transmittance and Polarization Axis Testing. It features several data tables:

TRANSMITTANCE

Transmittance uniformity SX		
Test PASS:	74	78.7%
Test FAIL:	20	21.3%
Total tests performed:	94	

Transmittance uniformity DX		
Test PASS:	78	83%
Test FAIL:	16	17%
Total tests performed:	94	

Transmittance balance SX-DX		
Test PASS:	94	100%
Test FAIL:	0	0%
Total tests performed:	94	

Q FACTORS		
Test PASS:	89	94.7%
Test FAIL:	5	5.3%
Total tests performed:	94	

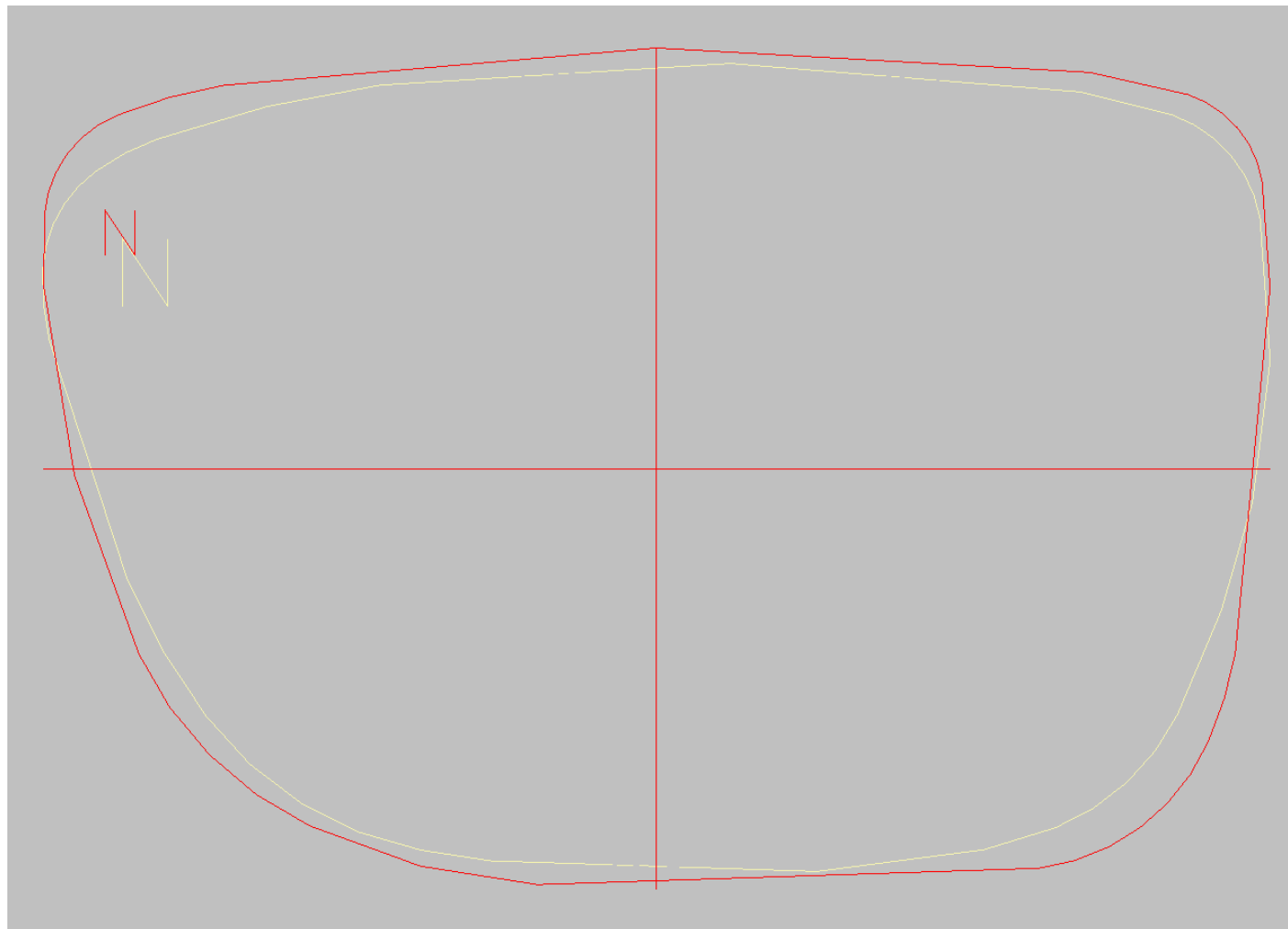
POLARIZATION AXIS TESTING

Polar axis SX		
Test PASS:	34	46.6%
Test FAIL:	39	53.4%
Total tests performed:	73	

Polar axis DX		
Test PASS:	35	47.9%
Test FAIL:	38	52.1%
Total tests performed:	73	

Polar SX-DX		
Test PASS:	31	42.5%
Test FAIL:	42	57.5%
Total tests performed:	73	

Software support for opticians to finding compatible lens models for a given frame



- ▶ Automatic template features extraction from Technical Drawings
- ▶ Import model features from ERP:
 - ▶ Model
 - ▶ Gender
 - ▶ Brand
 - ▶ Form Type
 - ▶ Material
- ▶ Automatic lenses search Equal-Template and Equal-Features

Standard Products - Metrology



Smart Projector Series



Easy Projector Series



Easy Measure



Smart Projector Pharma



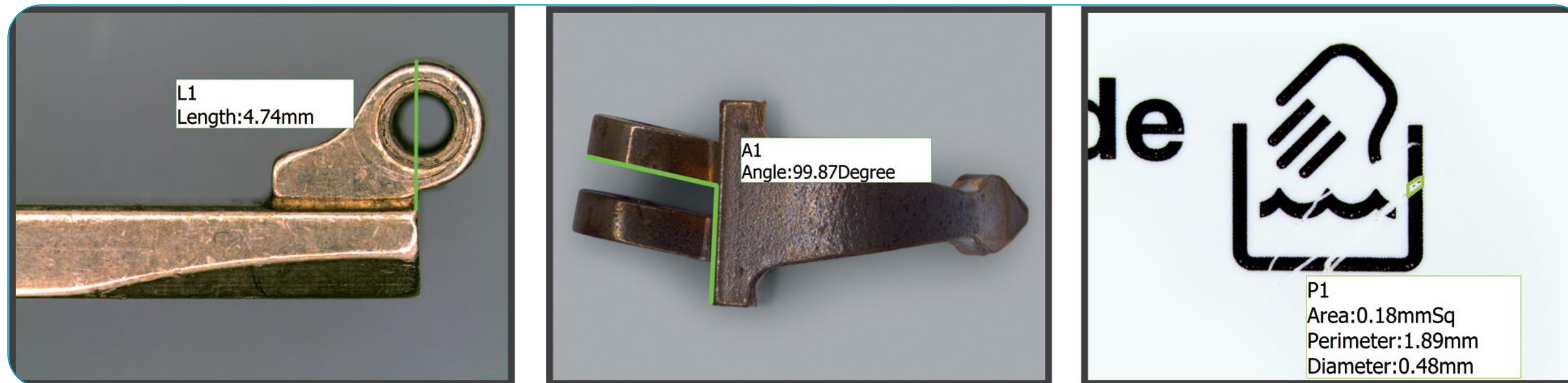
Hardware Accessories



Software Options



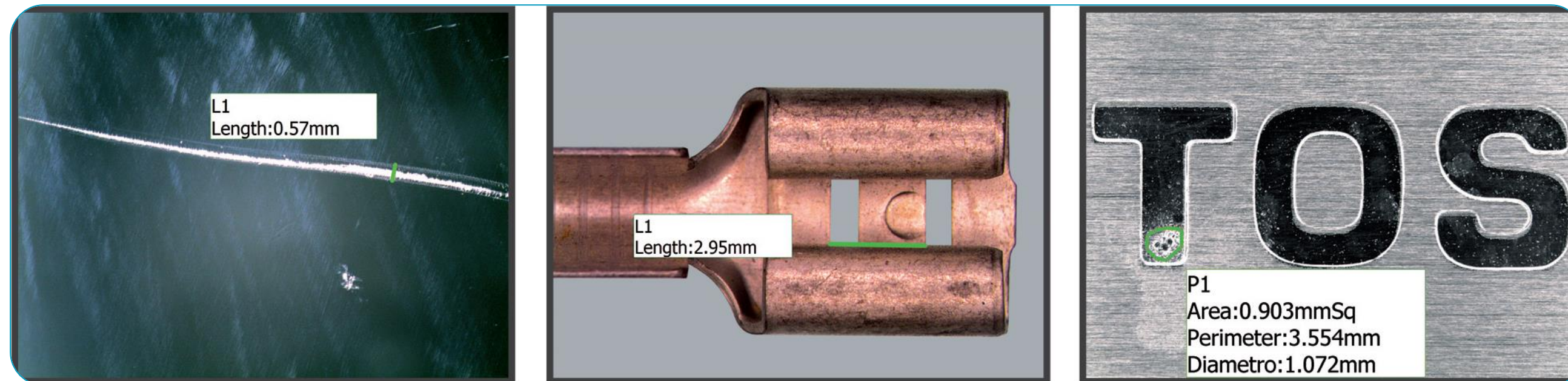
- ▶ Video Measuring Instrument
- ▶ High Resolution Live View
- ▶ Hand-held & Ergonomic
- ▶ Automatic Image Storing
- ▶ Telecentric Optic
- ▶ Light Intensity Regulation
- ▶ Variety of Applications
- ▶ Sharp And Accurate



DIMENSIONAL CHECK (EYEWEARE) - SCRATCH GAUGING (APPLIANCE)



DIMENSIONAL CHECK (SURFACE; WOOD KNOT; STEEL FLAW)

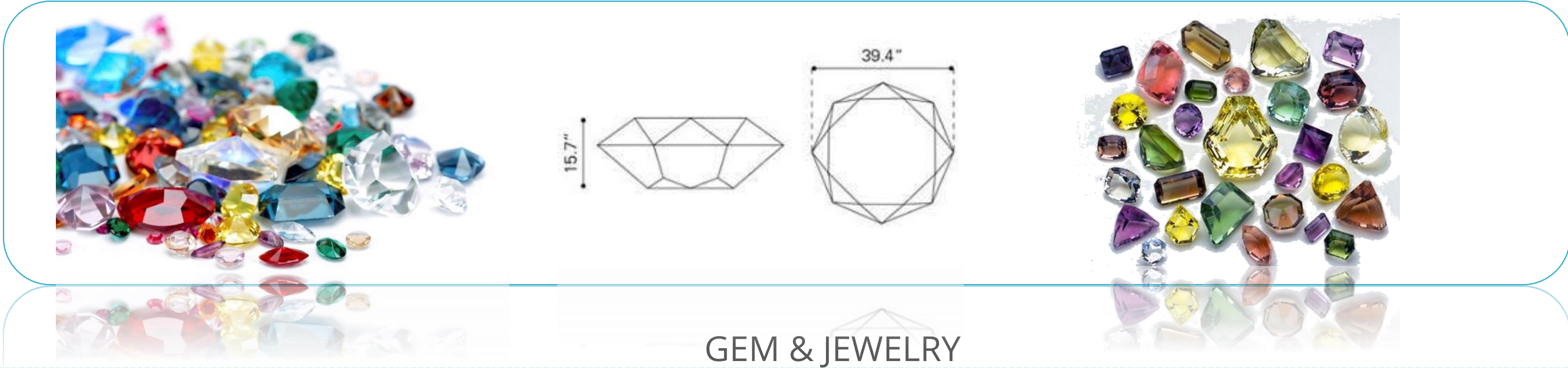


DIMENSIONAL CHECK OF: SCRATCH ON GLASS - ELECTRICAL COMPONENTS - PRINTED SURFACES)

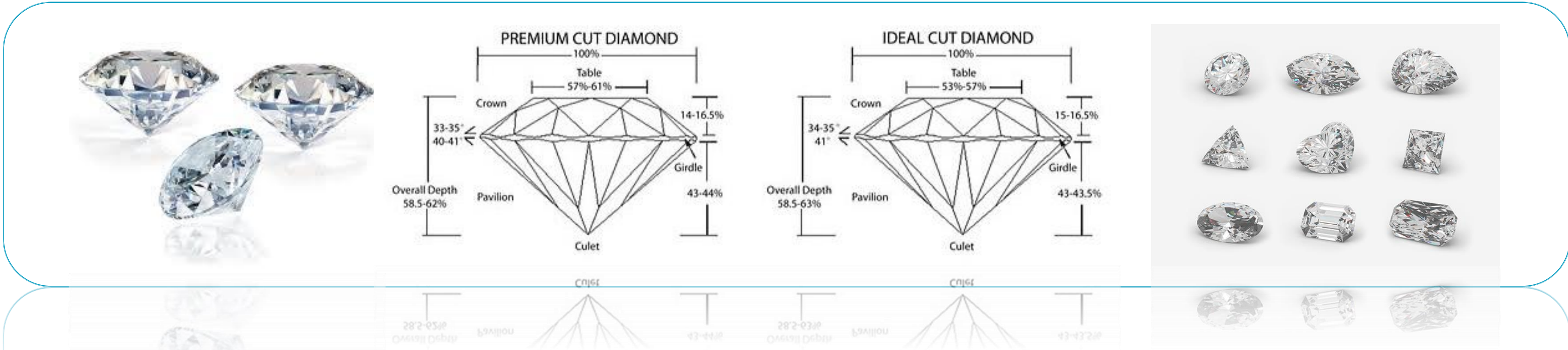


DIMENSIONAL CHECK (PLASTIC; PRINTED GLASS) - LIVE VIEW (MASTER COMPARISON)

Easy_Measure - *Niche Markets*



GEM & JEWELRY



DIAMONDS

Smart_Projector



- ▶ Automatic Digital Profile Projector
- ▶ Instant Measurement
- ▶ 16.000 Measurements Per Item
- ▶ Random Part Positioning
- ▶ No influence from the user
- ▶ One-shot Measurement
- ▶ Easy Data Management
- ▶ Pass / Fail Lamp
- ▶ Easy To Use

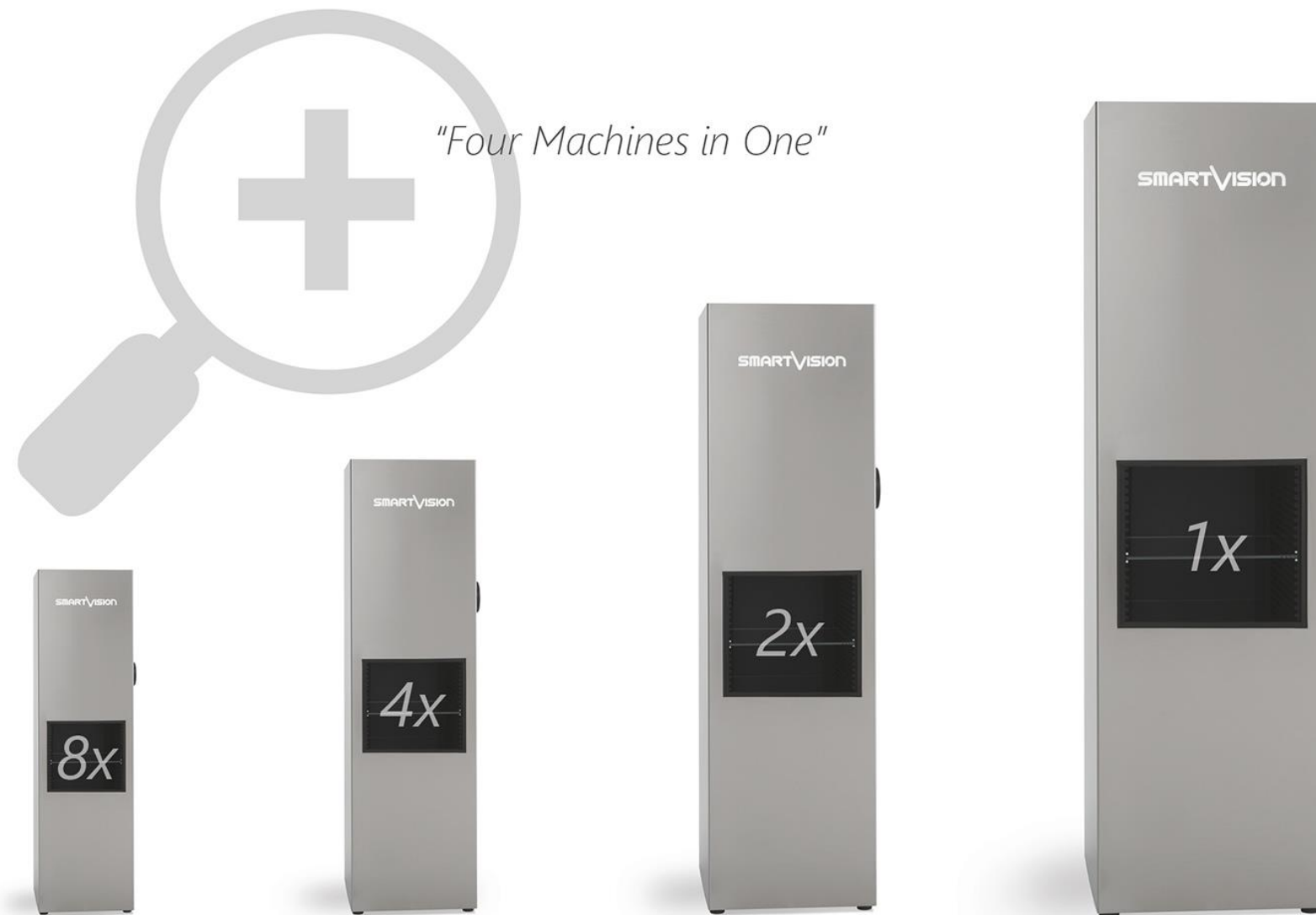
Smart_Projector - Available Models



Smart_Projector_Quattro_Pro

NEW

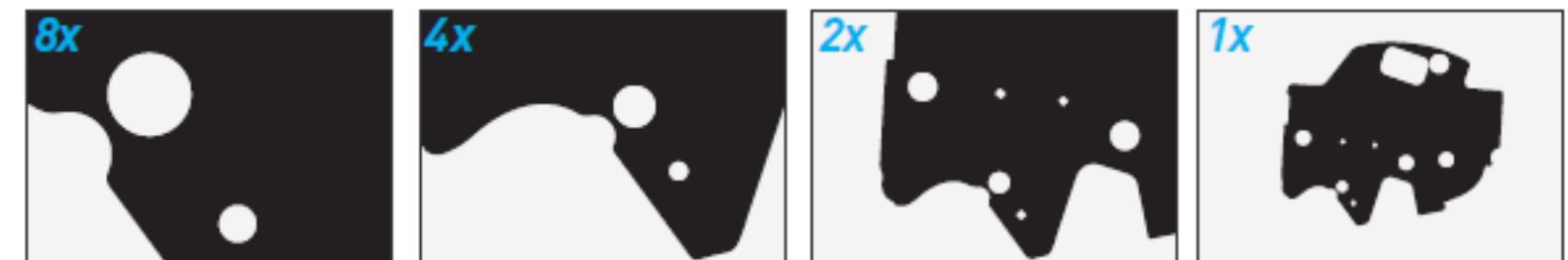
MEM



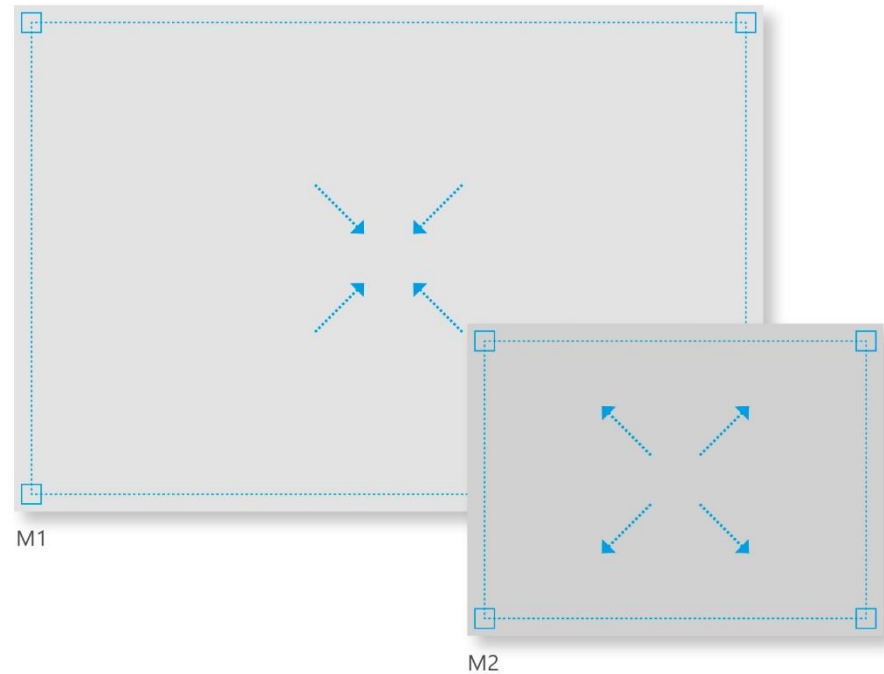
▶ High Performance ZOOM Video Measuring Instrument

▶ Allows 4 different magnifications: \varnothing 12 / 24 / 48 / 90 mm

▶ Stability of the image center when focusing and switching from one level of magnification to another



Smart_Projector_Double



- ▶ Fast Industrial Bi-Magnification Video Measuring Instrument
- ▶ Allows 2 different magnifications, Wide choice of FoV pairs
- ▶ Capex and Opex reduction (compared to two separate instruments)

Smart_Projector_Ruby



- ▶ Fast Automatic Industrial Video Measuring Instrument
- ▶ Extra Small FoV and X/Y moving axes
- ▶ Double Episcopic lights source
- ▶ High precision tolerances, ideal for checks to watch components, microelectronics and micromechanical items

Smart_Projector Pharma



- ▶ Fast Digital Profile Projector
- ▶ Ideal for Primary Pharmaceutical Packaging
- ▶ Eliminates Subjective Measurements
- ▶ Easy Setup And Model Management
- ▶ Easy Data Management
- ▶ Horizontal Layout ideal for Cylinders
- ▶ Industrial Grade Components
- ▶ Accurate with Transparent Materials
- ▶ Optional Rotating Robot

Easy_Projector



- ▶ Best entry-level Digital Profile Projector
- ▶ Low Price & High Performances
- ▶ Equipped with a Next Unit Computing
- ▶ Two models availables
- ▶ Field of View 92x62 or 168x113 (mm) circular with vignetting

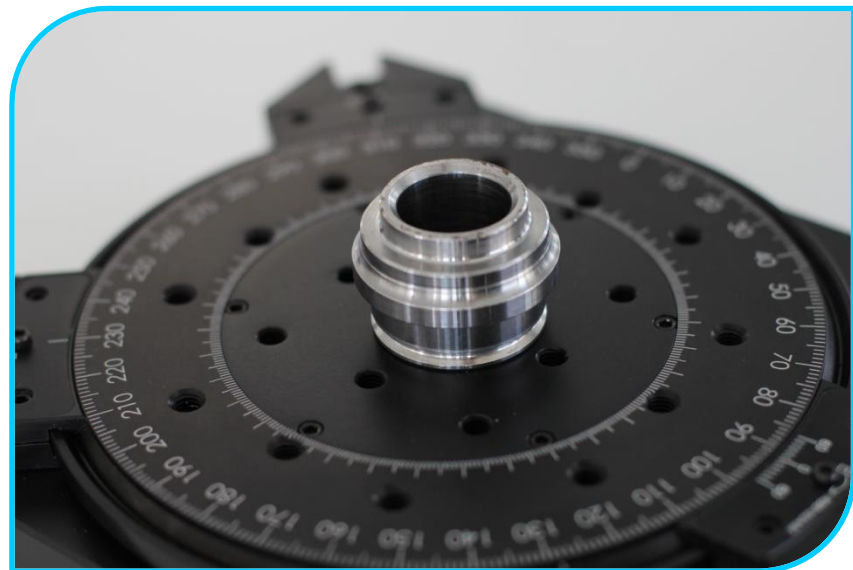
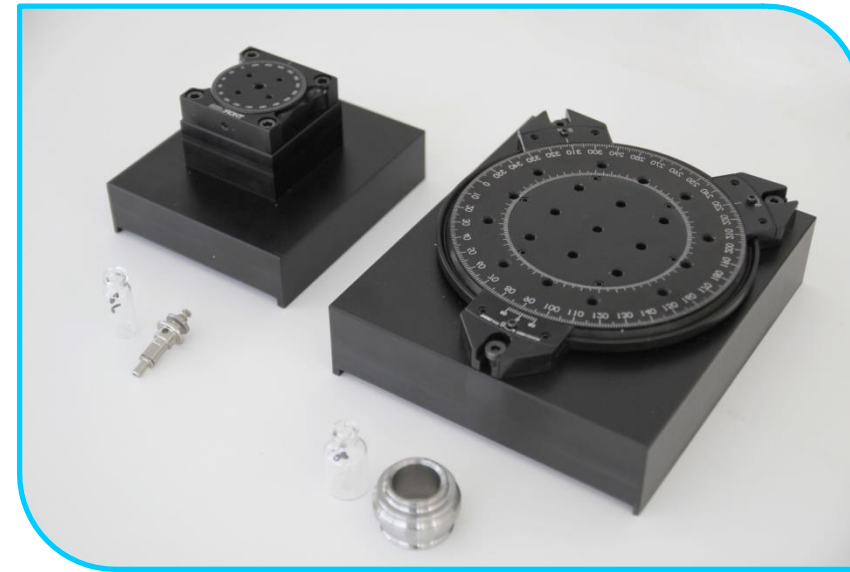
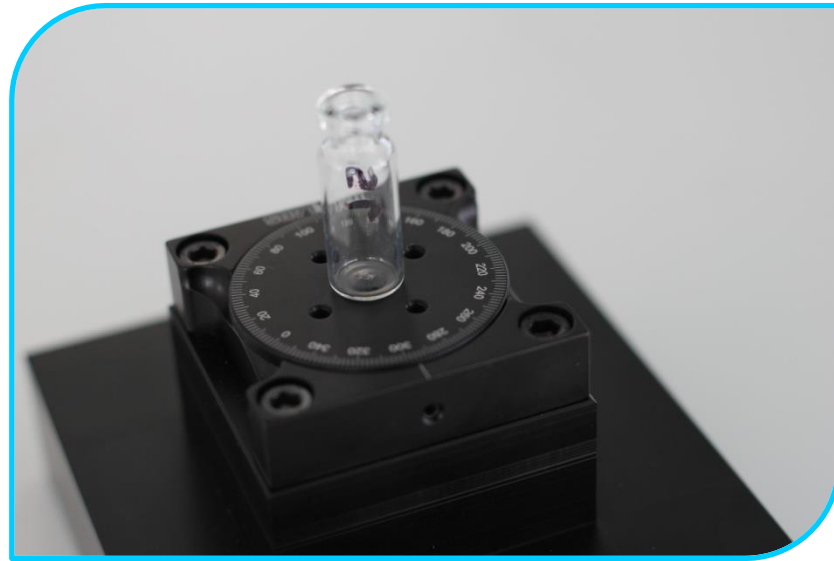
Smart_Projector Accessories



- ▶ Rotating_Stage + 4 Rubber Pins
- ▶ Two Smart_Projector In One
- ▶ Cylindrical Item Dimensional Check
- ▶ The Item Can Be Rotated 360°
- ▶ No influence from the user

Smart_Rotating_Stage

Smart_Projector Accessories



- ▶ Innovative 360° Measuring
- ▶ Cylindrical Parts Measurements
- ▶ Transparent Material Measurements
- ▶ Place Your Item
- ▶ Run The Program
- ▶ Rotate The Graduated Stage
- ▶ Easily Check More Views At Selected Angles
- ▶ Record Steps For 360° View
- ▶ Variables And User Messages

Smart_Projector Accessories



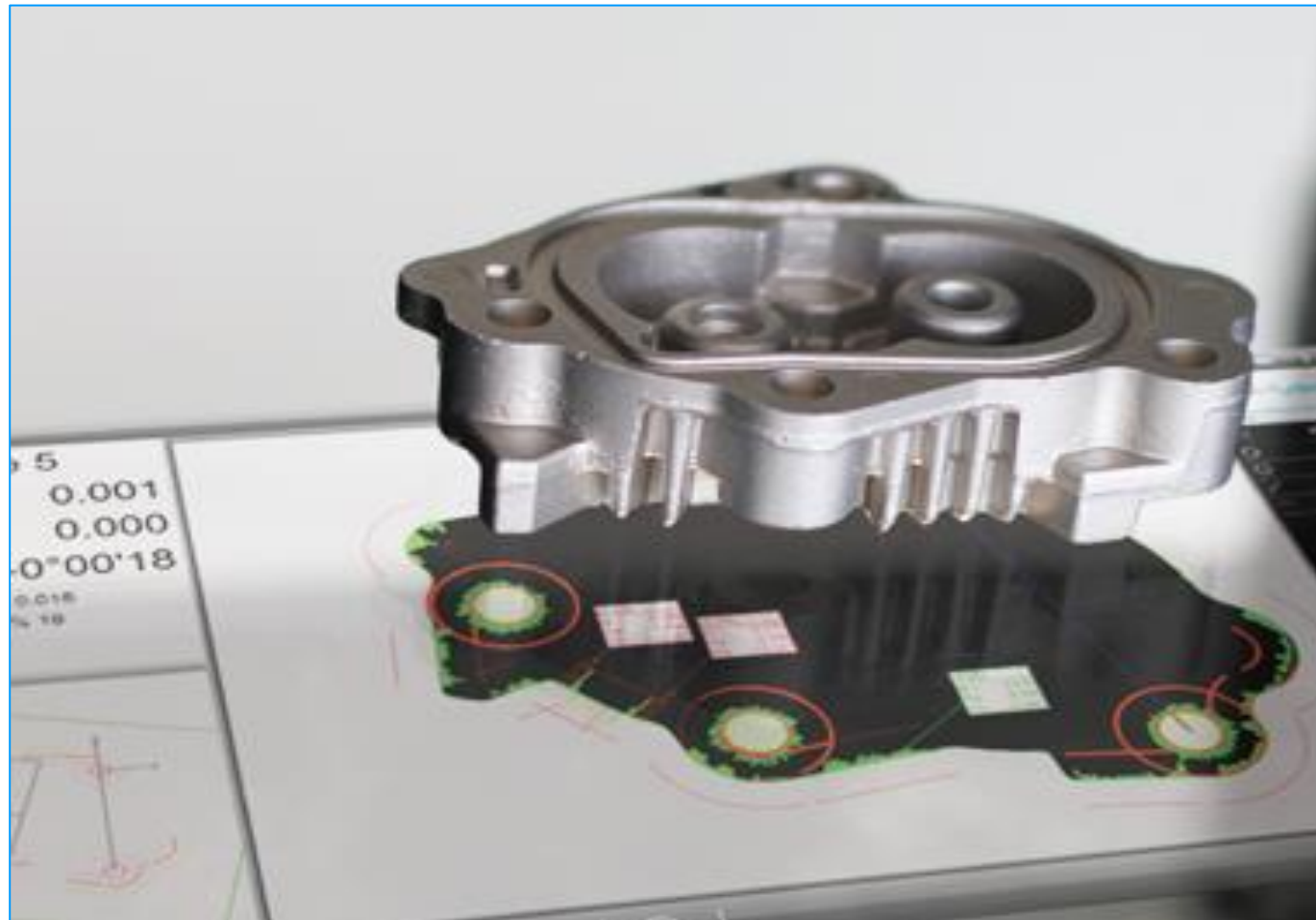
- ▶ Automated 360° Measurements
- ▶ Dedicated Control Station
- ▶ Rotating Robot Stage with Accessories
- ▶ Measurement of different views at selected Angles
- ▶ Measurement of Any Cylindrical Component
- ▶ Horizontal and Vertical configuration

Smart_Projector Hardware/Software Options



- ▶ Automation Features For Smart_Projector
- ▶ Integration With Other Industrial Machines
- ▶ Automatic Measurements Integrated With Production Lines Through I/O Module
- ▶ Immediate Adjustment Of Production Quality Level
- ▶ Reduced Production Scraps

Software Options



- ▶ New Software Upgrade
- ▶ High Performance DXF Digital Comparator
- ▶ Digital Profile Check Tool
- ▶ Pattern Teach And Recognition
- ▶ Import DXF Files To Create Video Overlays

Smart_Projector Software Options

Software features to extend the capability of Smart_Projector

Smart_Wire_Measurement

Measure and check the thickness of wire insulation samples



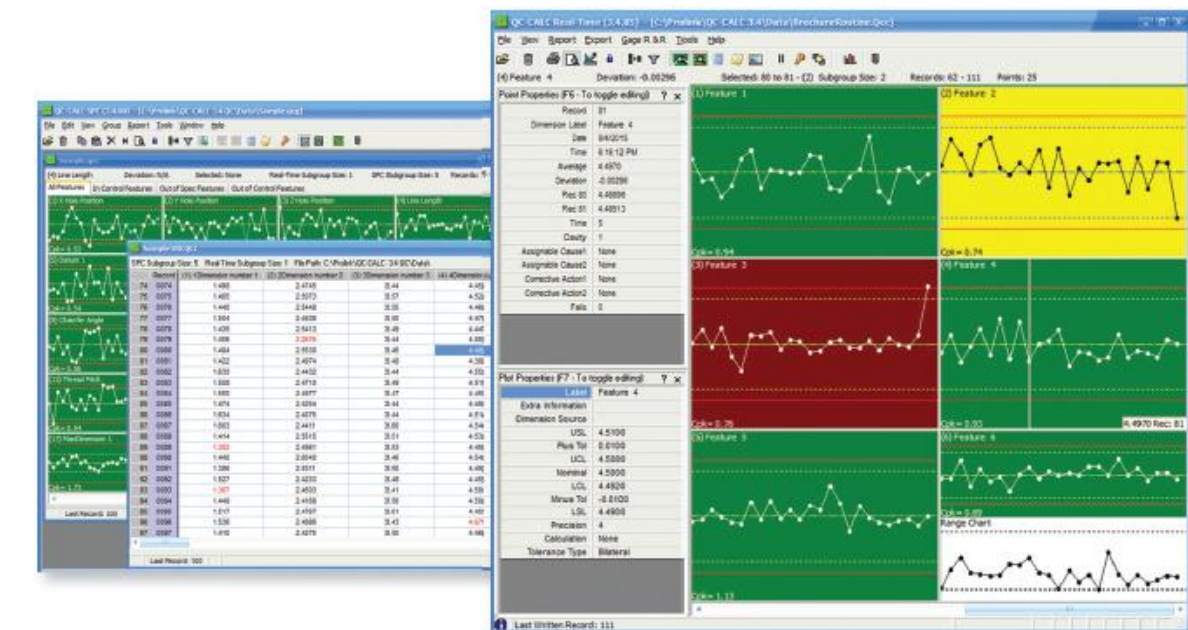
Smart_Thread_Measurement

Complete Threads measurement and check

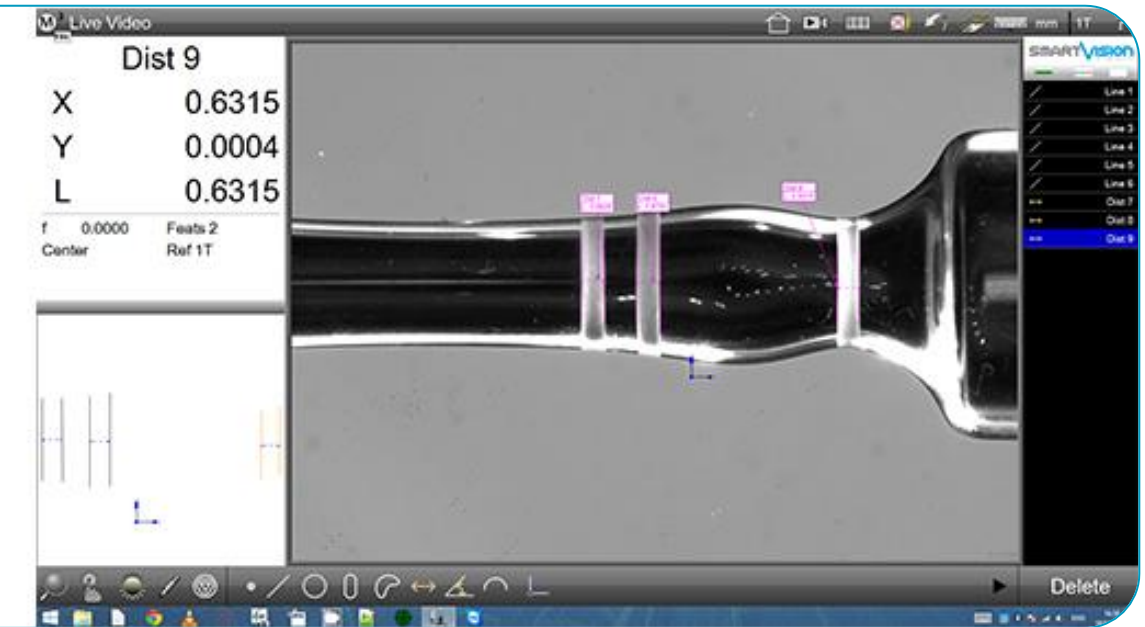
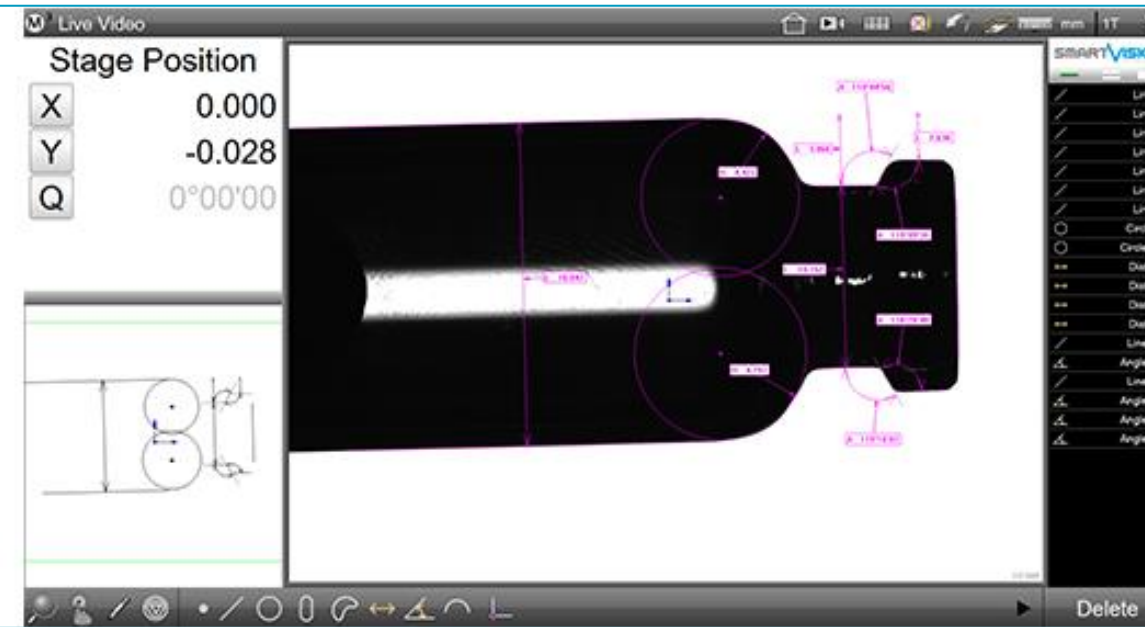


Smart_Data_Collection_SPC

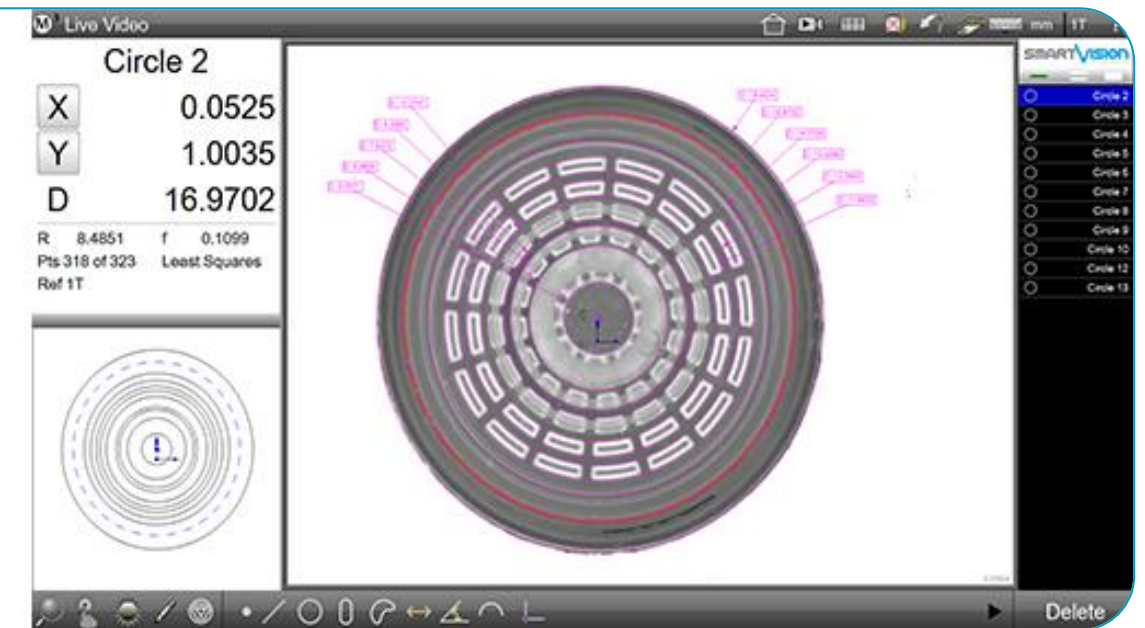
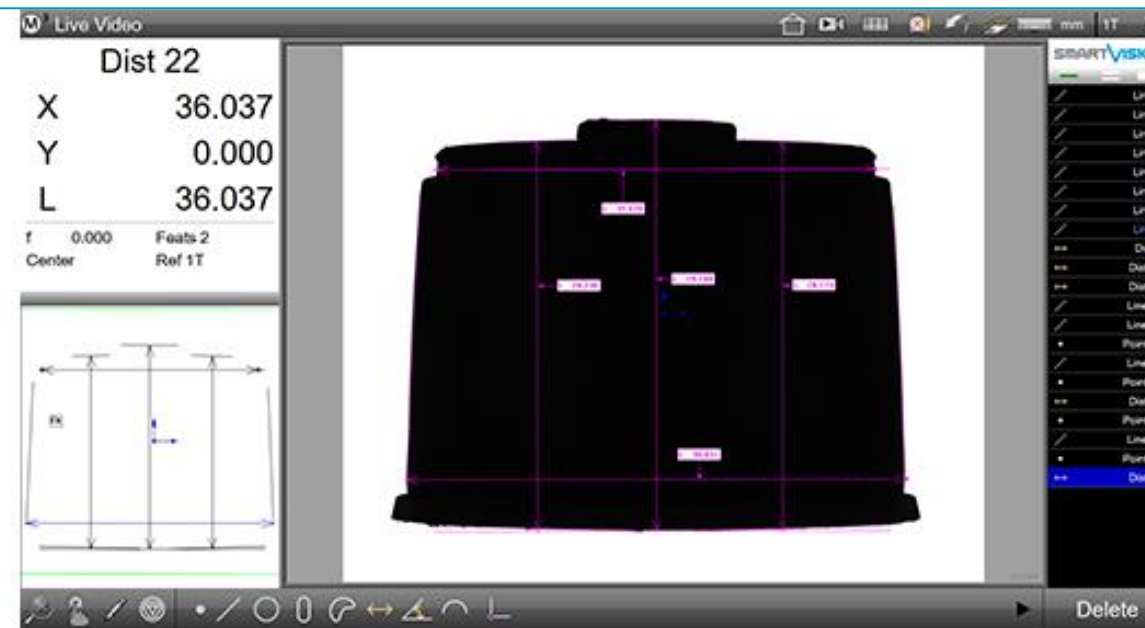
Analyse & Collect Data



Smart_Projector - Applications

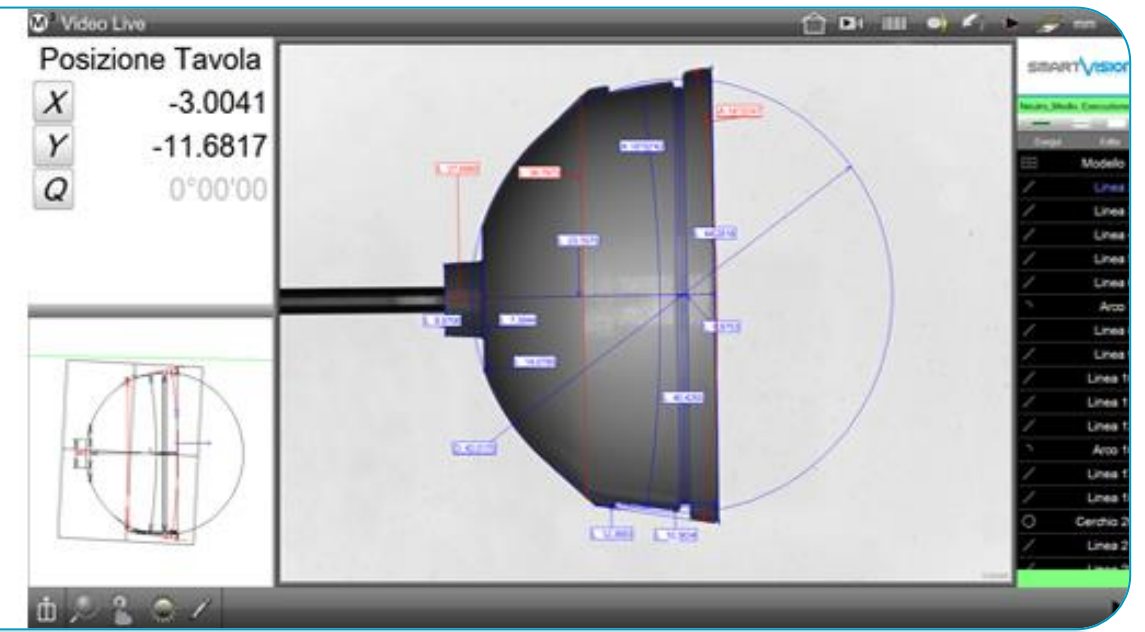
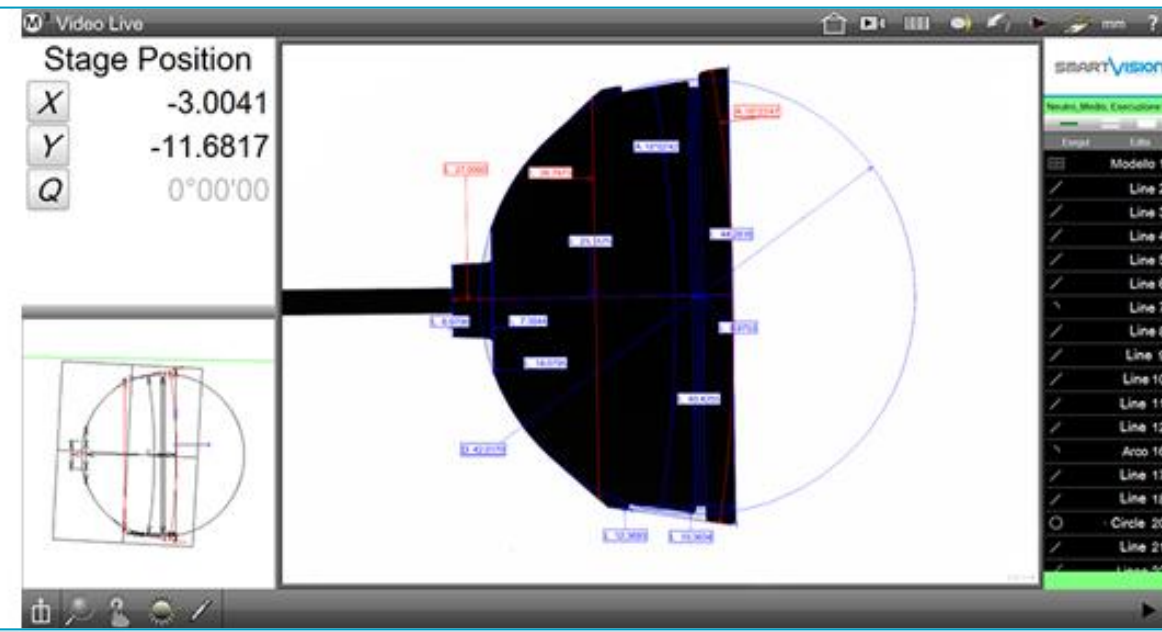


GLASS

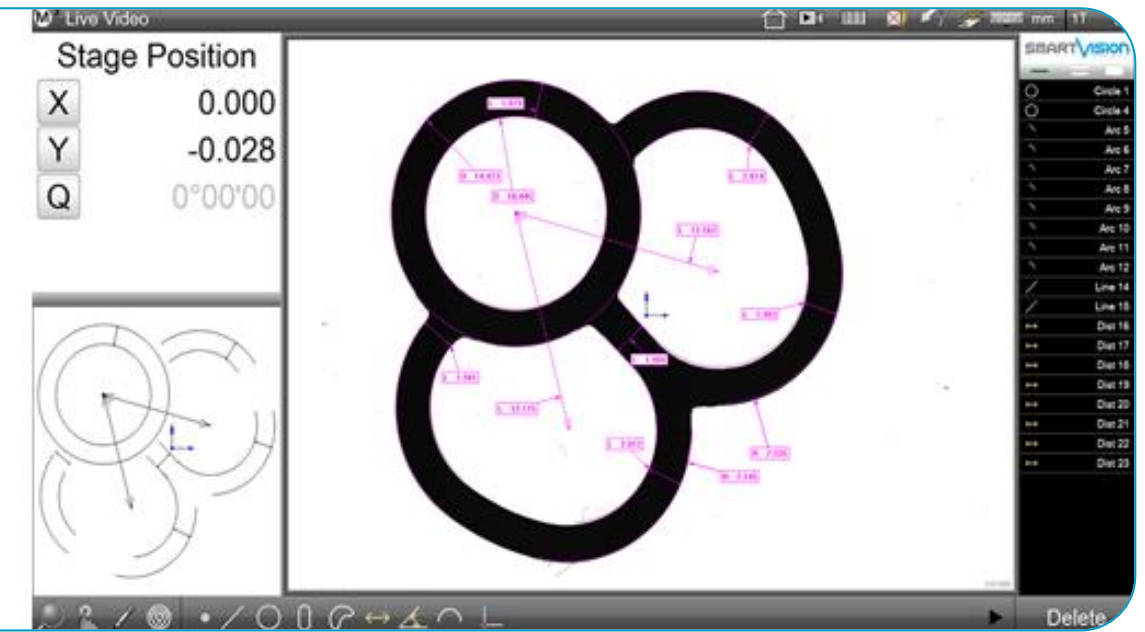
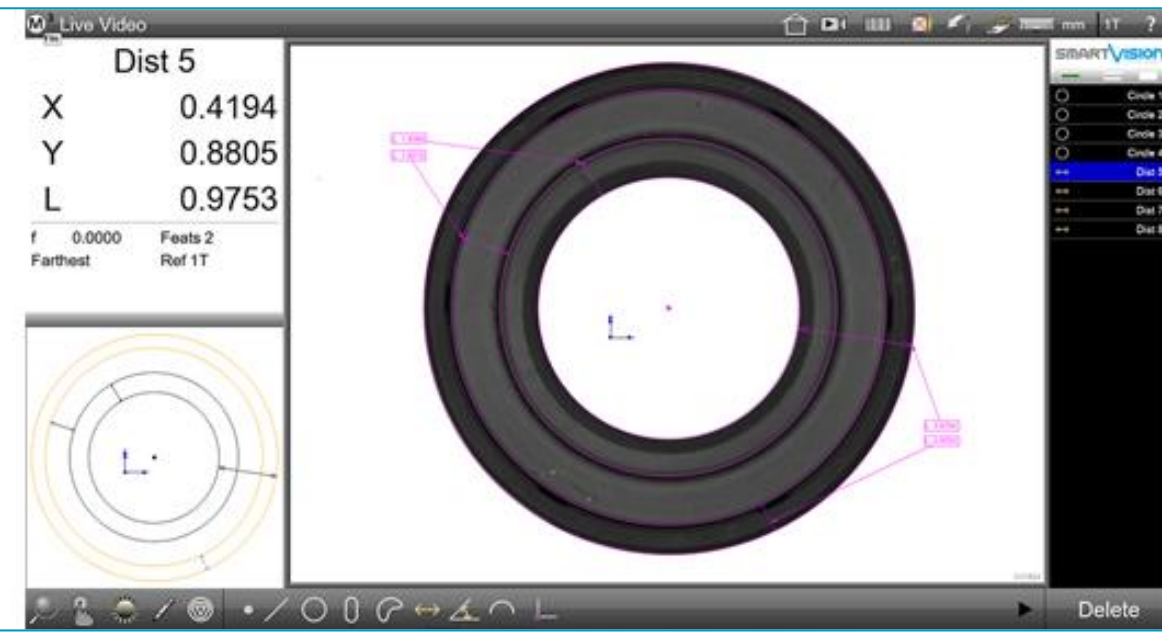


PLASTIC

Smart_Projector - Applications

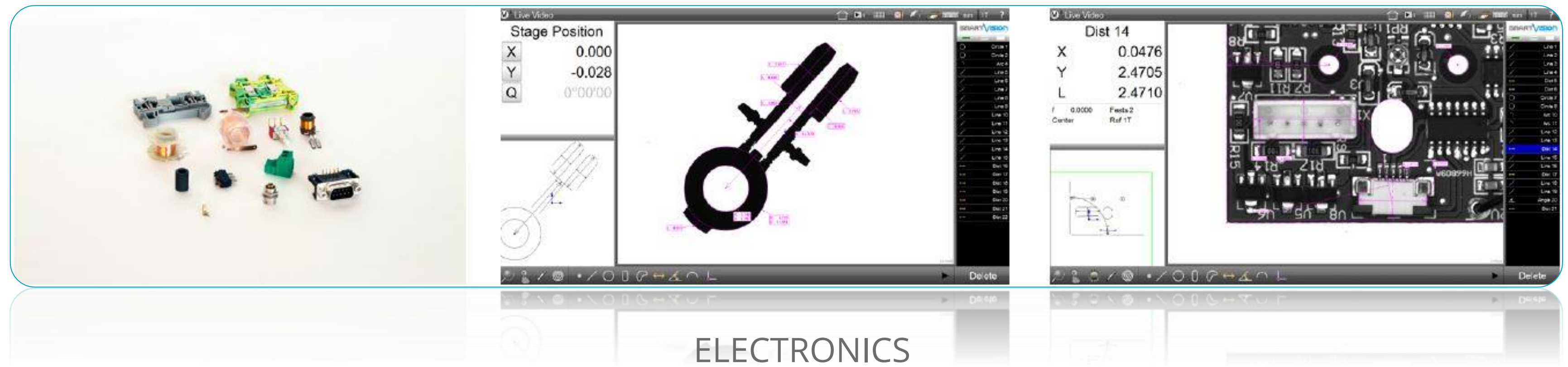
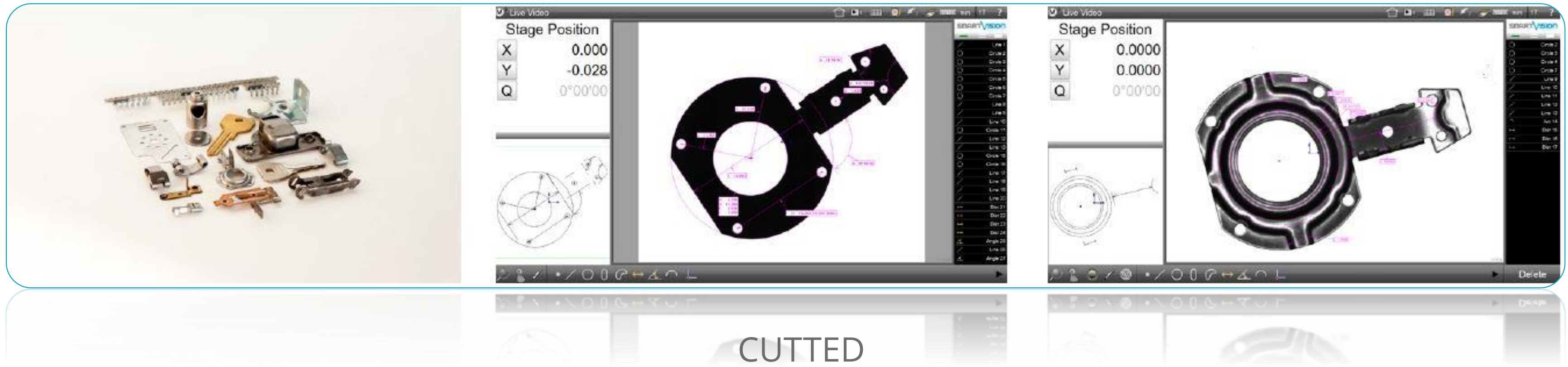


PROSTHESIS

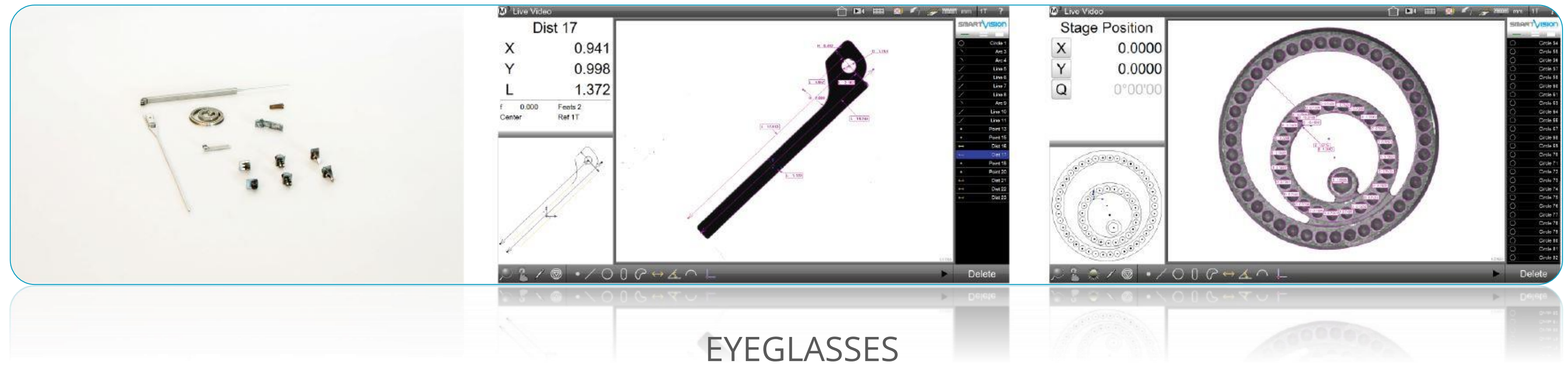
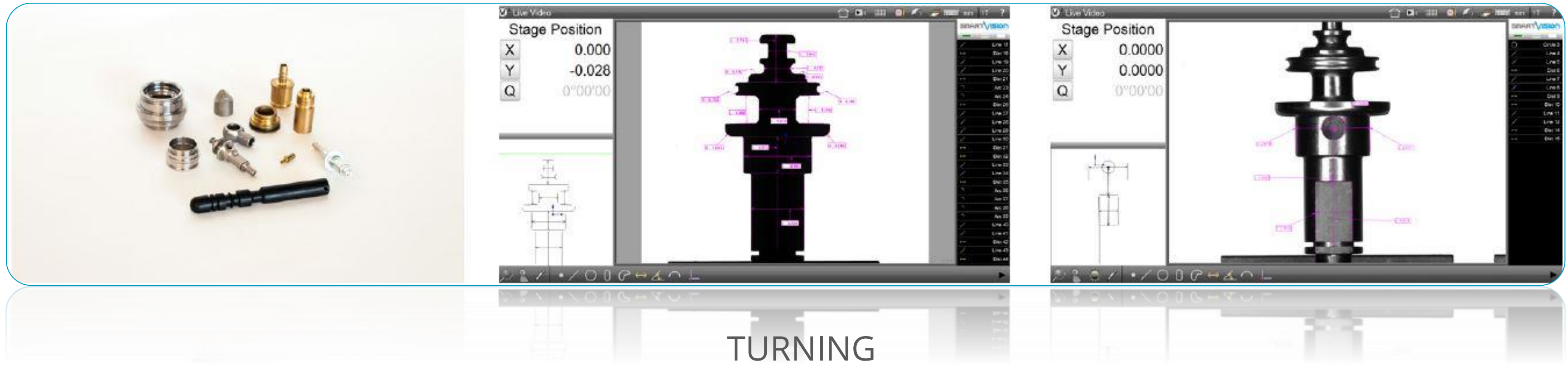


RUBBER & O'RINGS

Smart_Projector - Applications



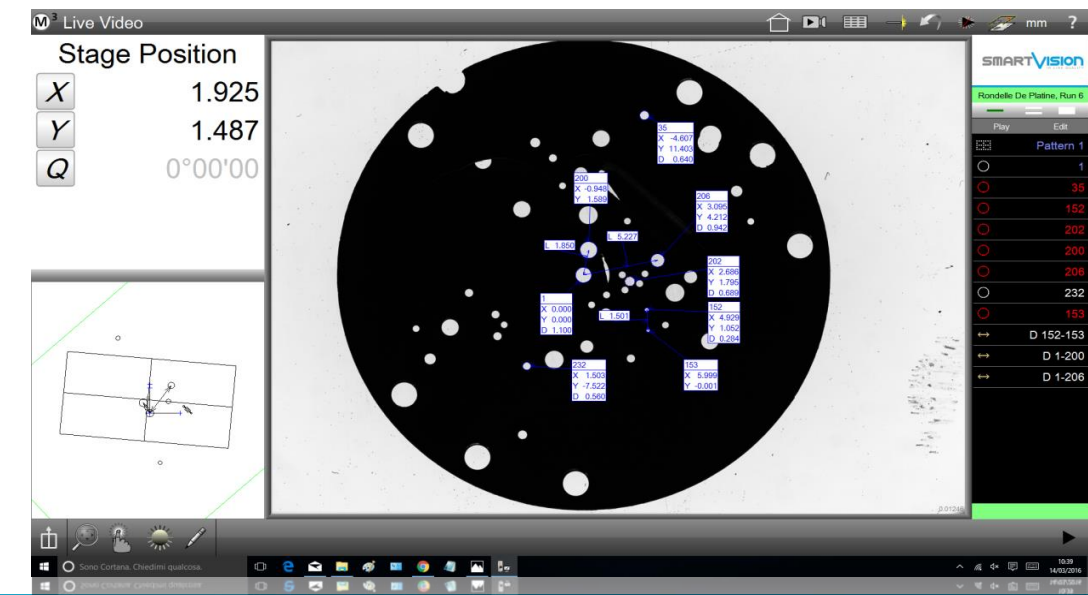
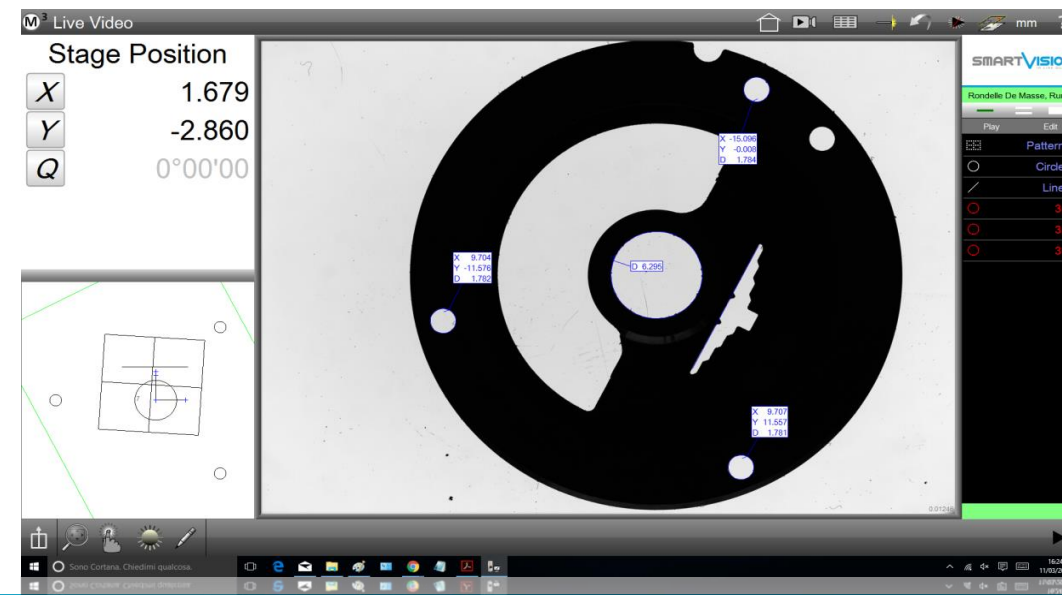
Smart_Projector - Applications



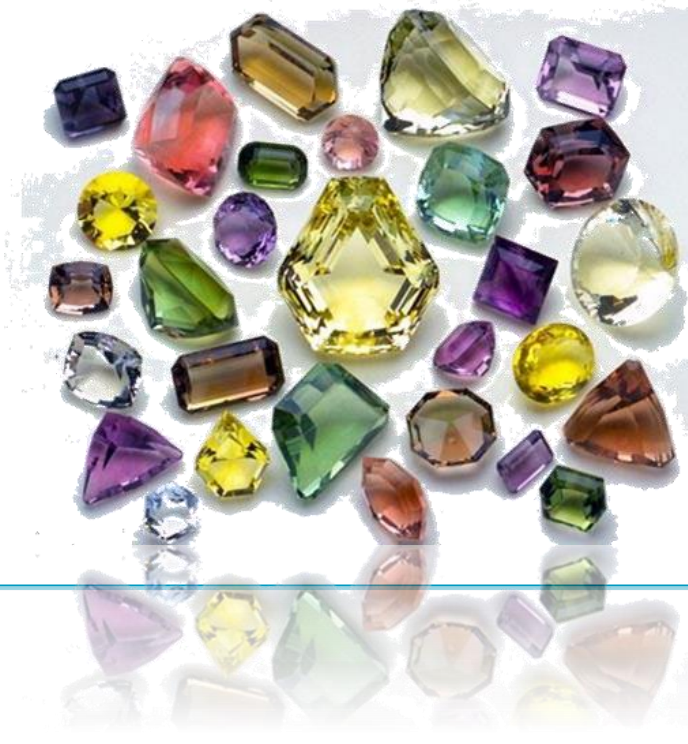
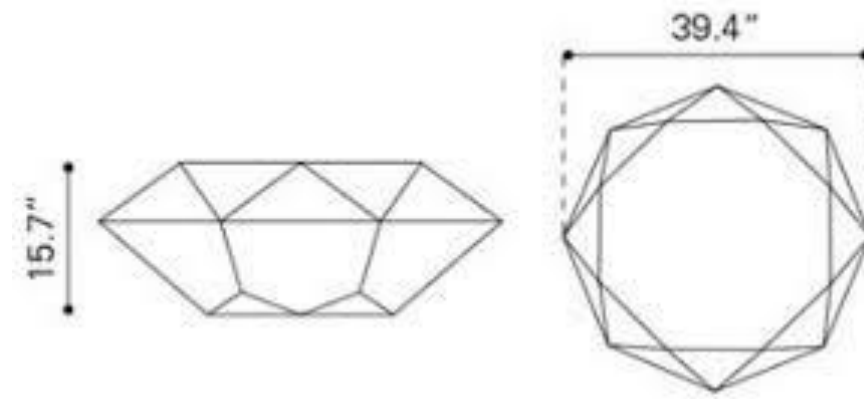
Smart_Projector - *Niche Markets*



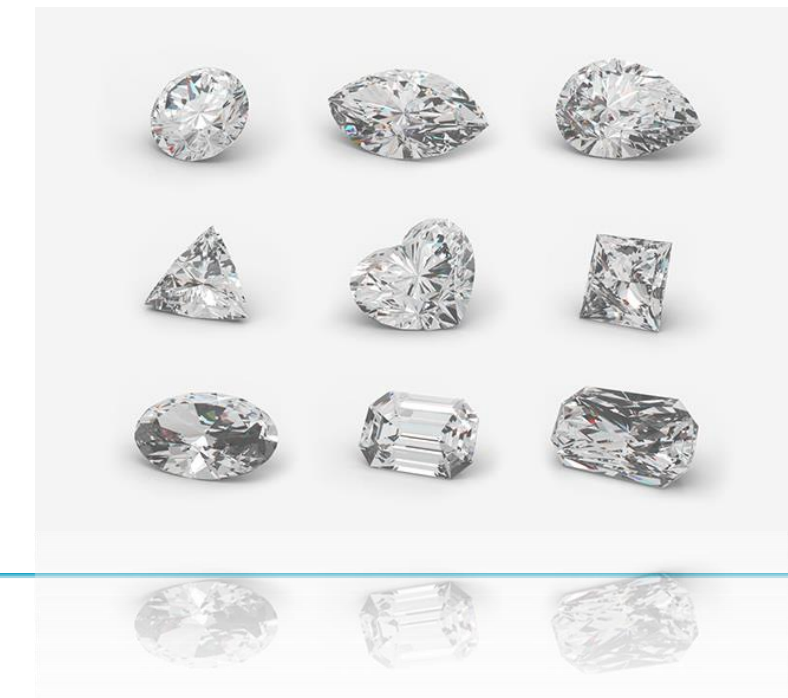
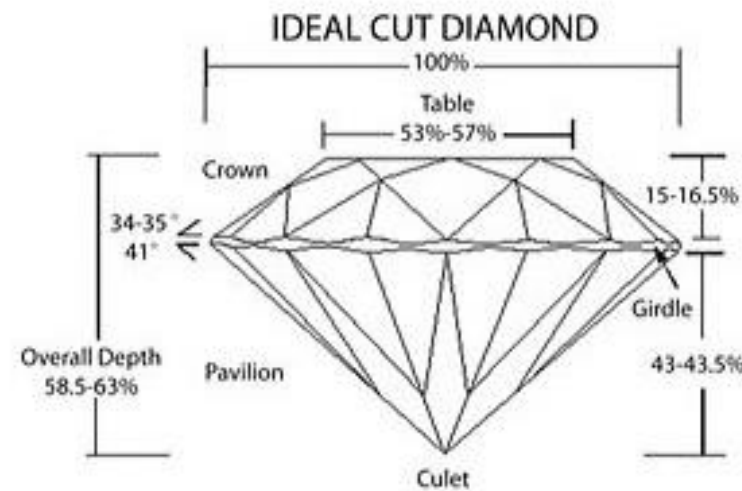
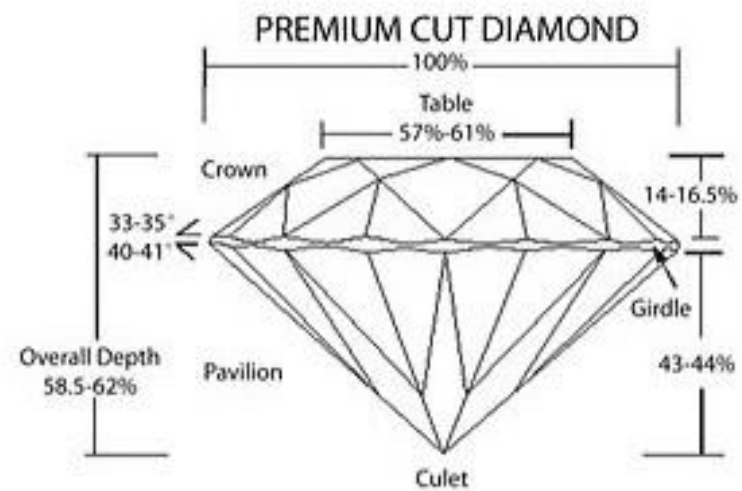
DENTAL



WATCH INDUSTRY

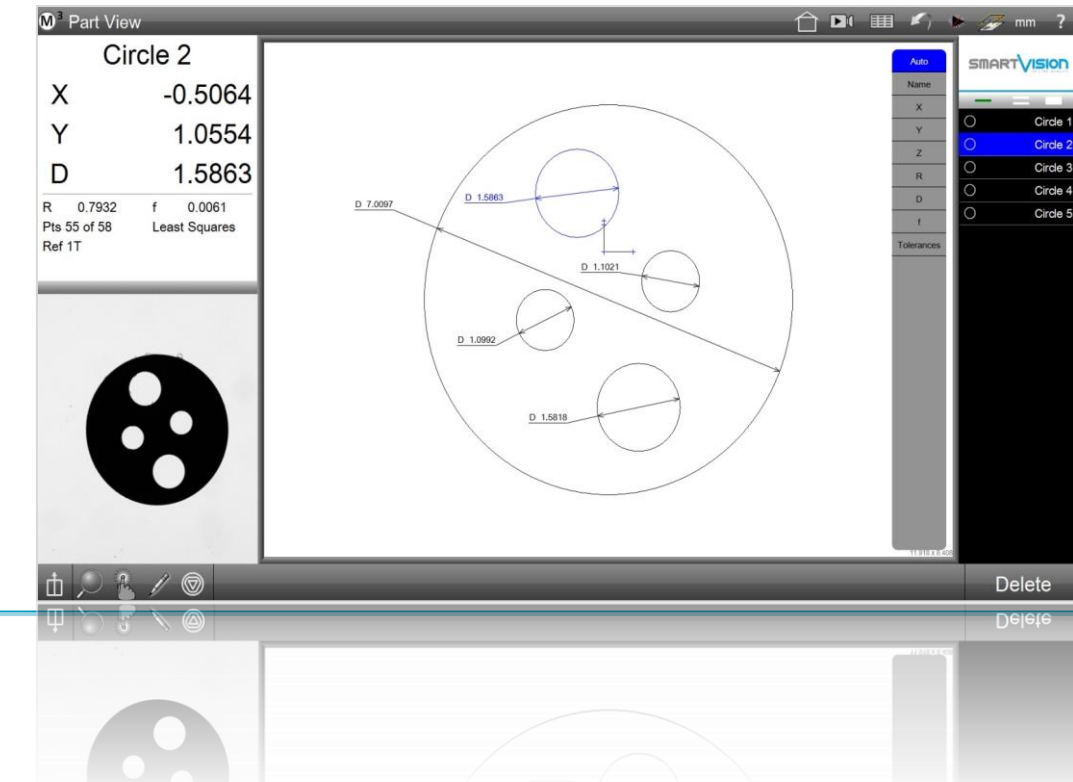


GEMS & JEWELLERY

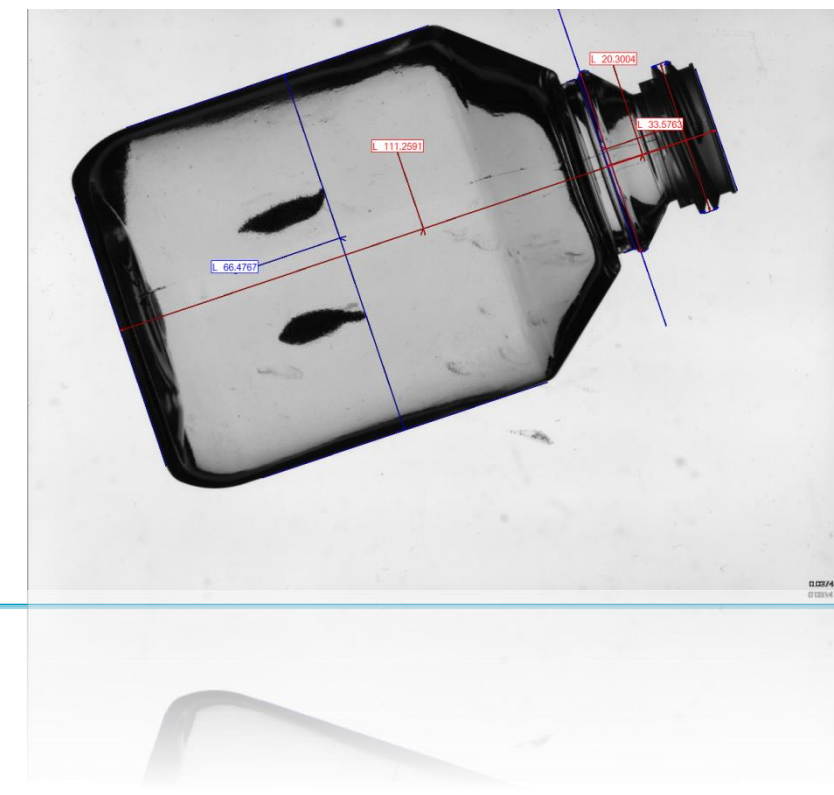
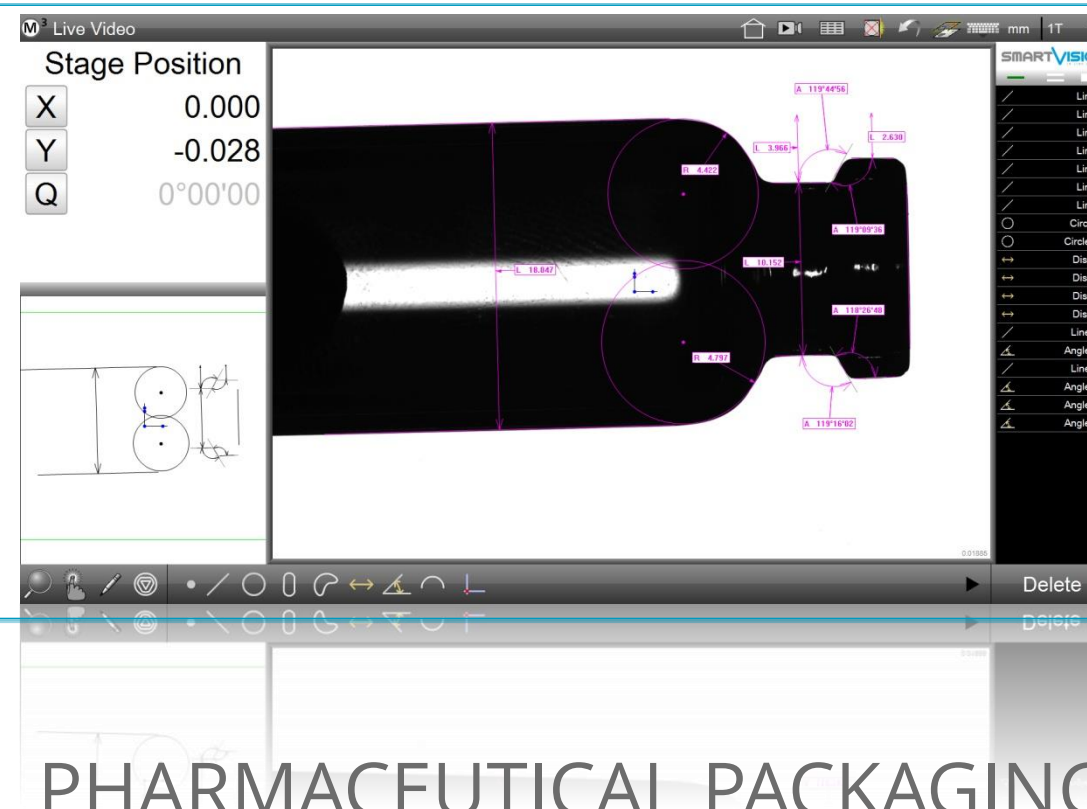


DIAMONDS

Smart_Projector - Niche Markets

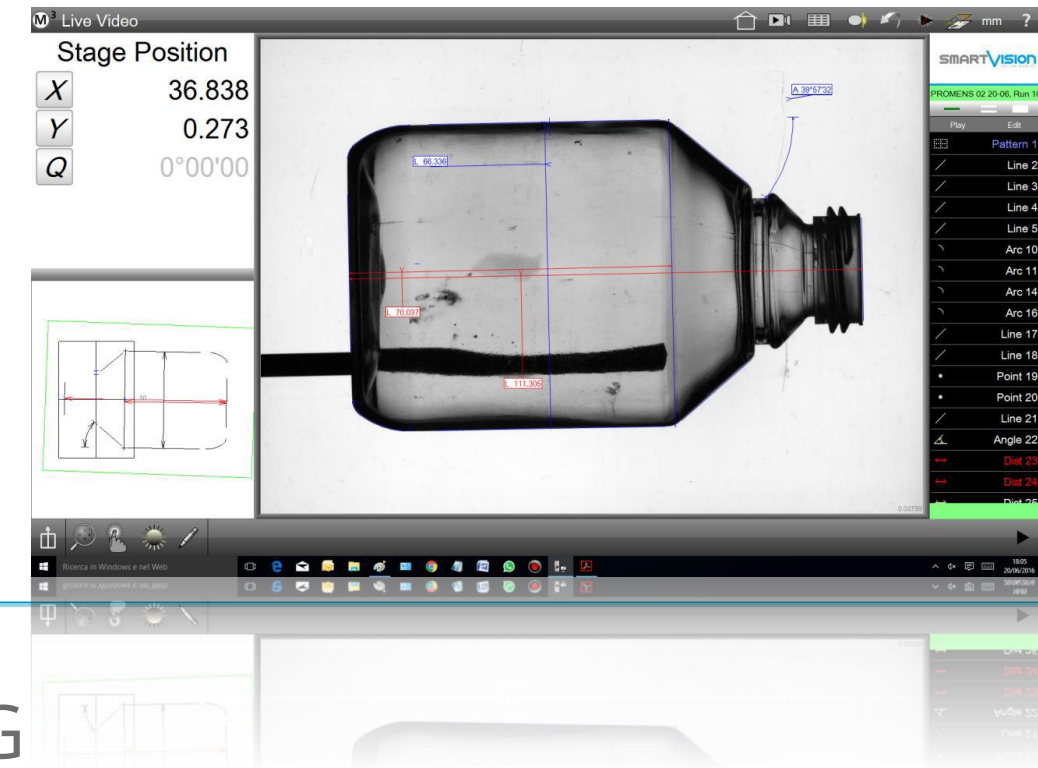


MEDICAL

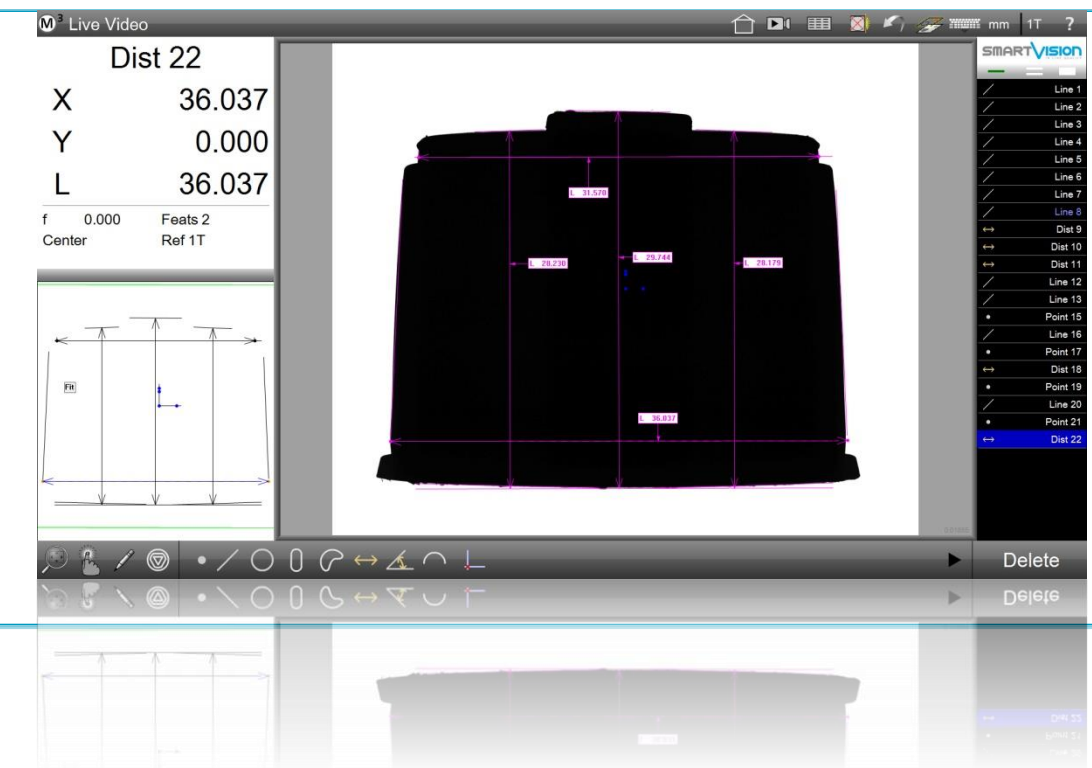
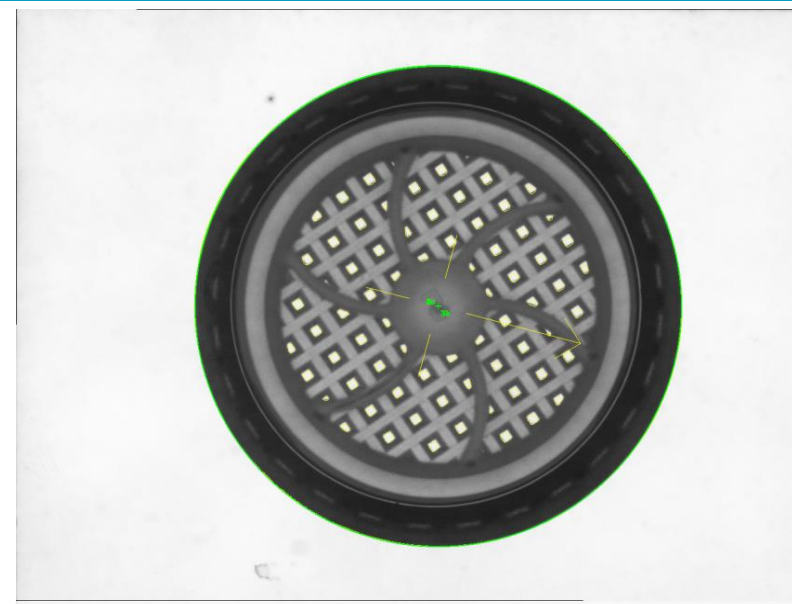


PHARMACEUTICAL PACKAGING

Smart_Projector - *Niche Markets*

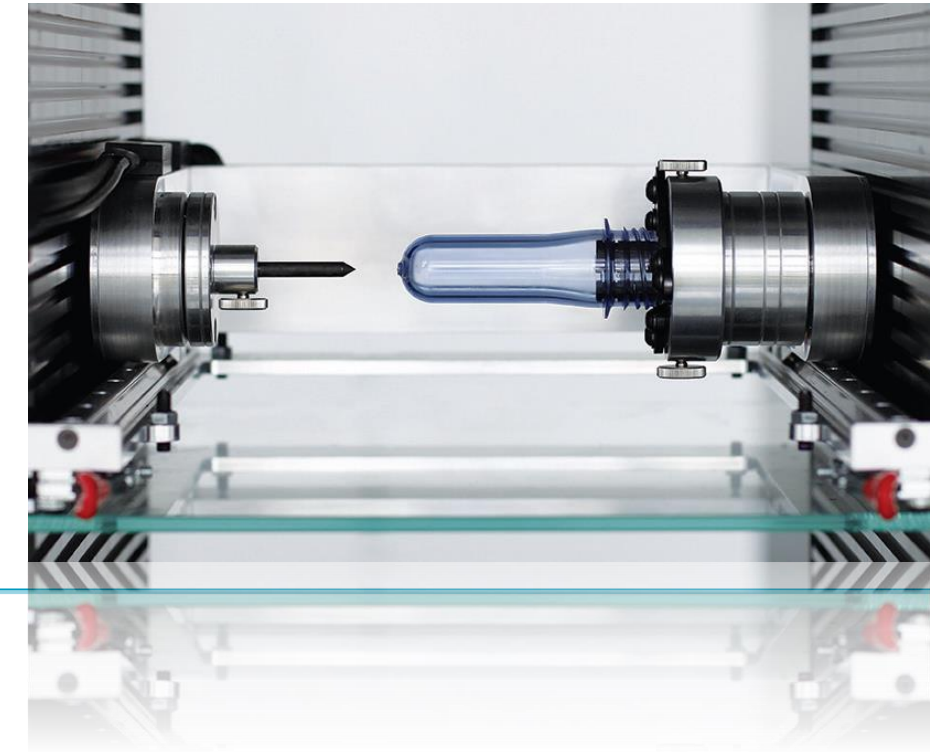


PLASTIC BOTTLES & PACKAGING

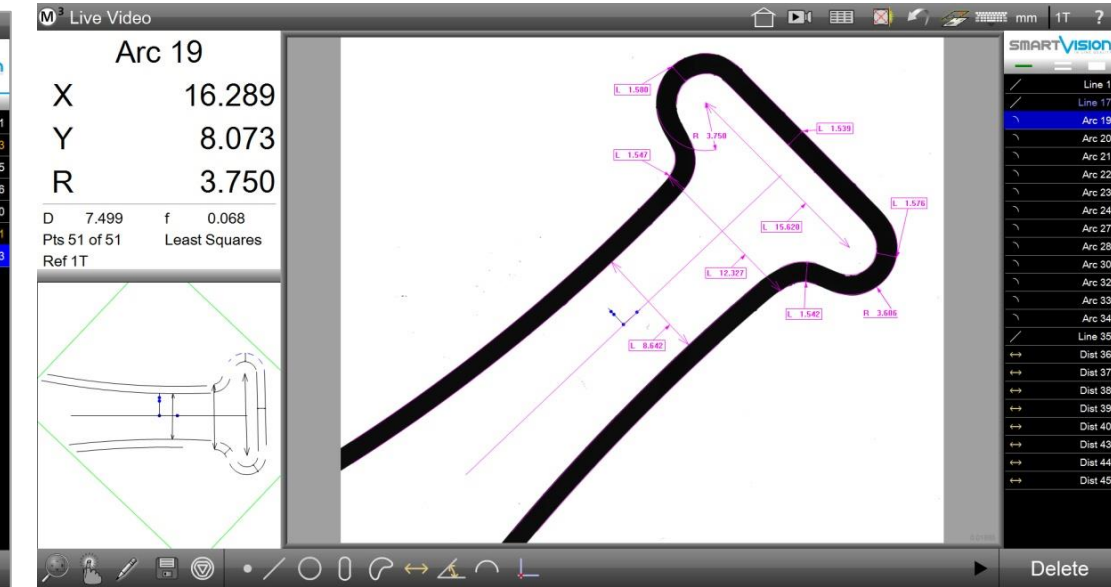
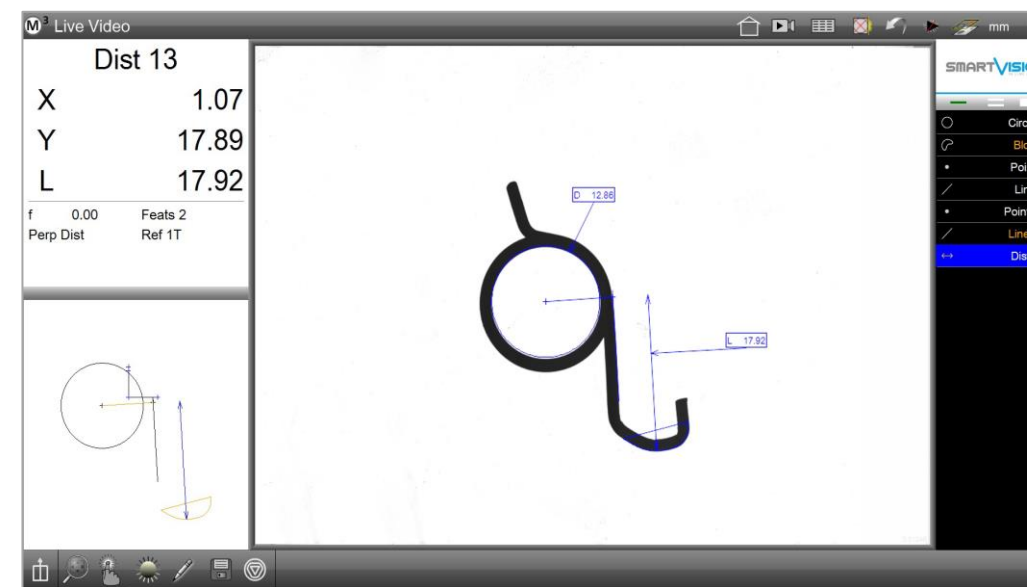


COFFEE PODS

Smart_Projector - *Niche Markets*

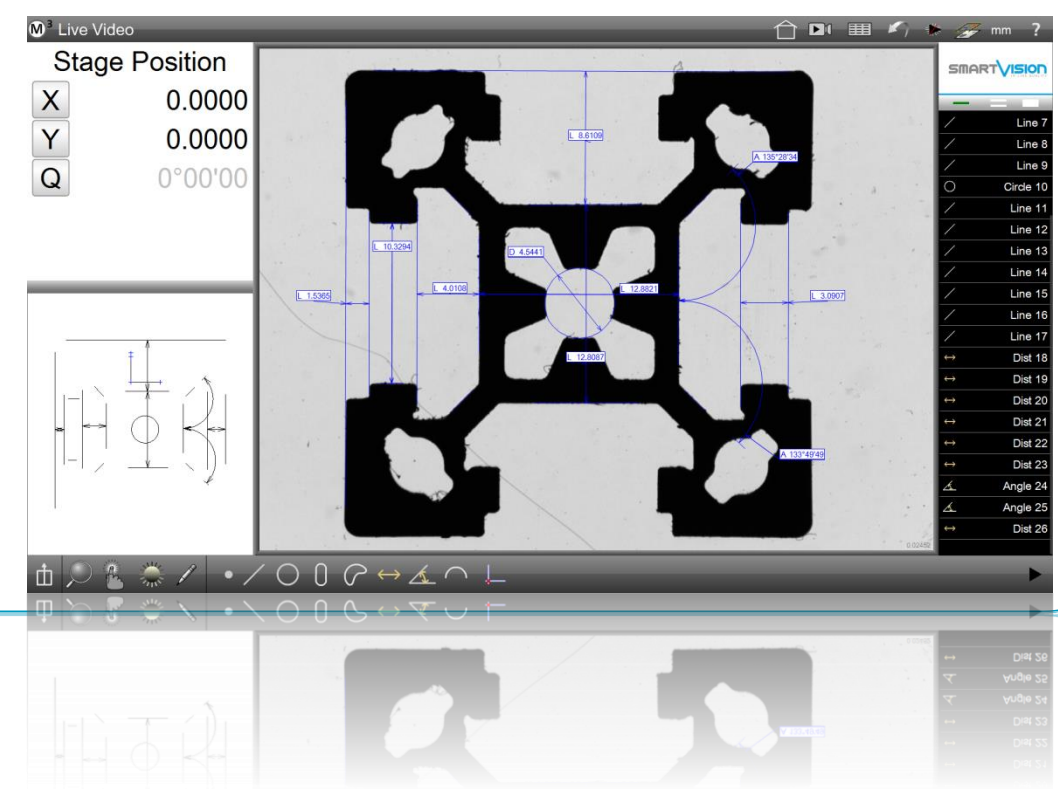
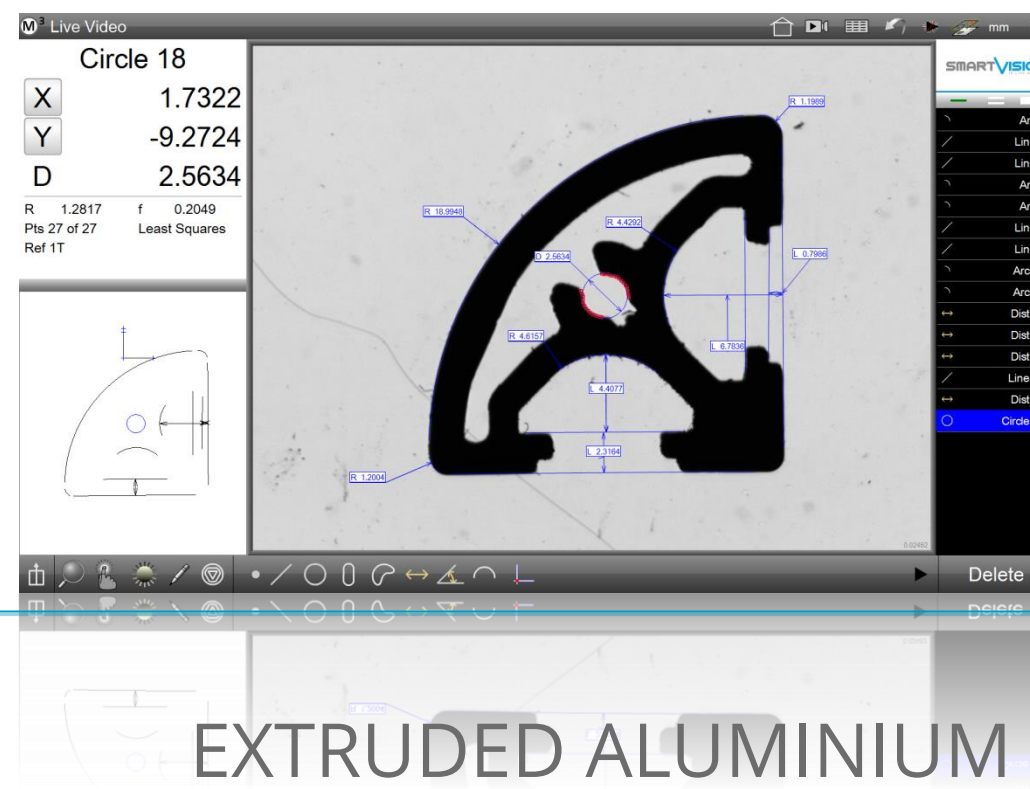
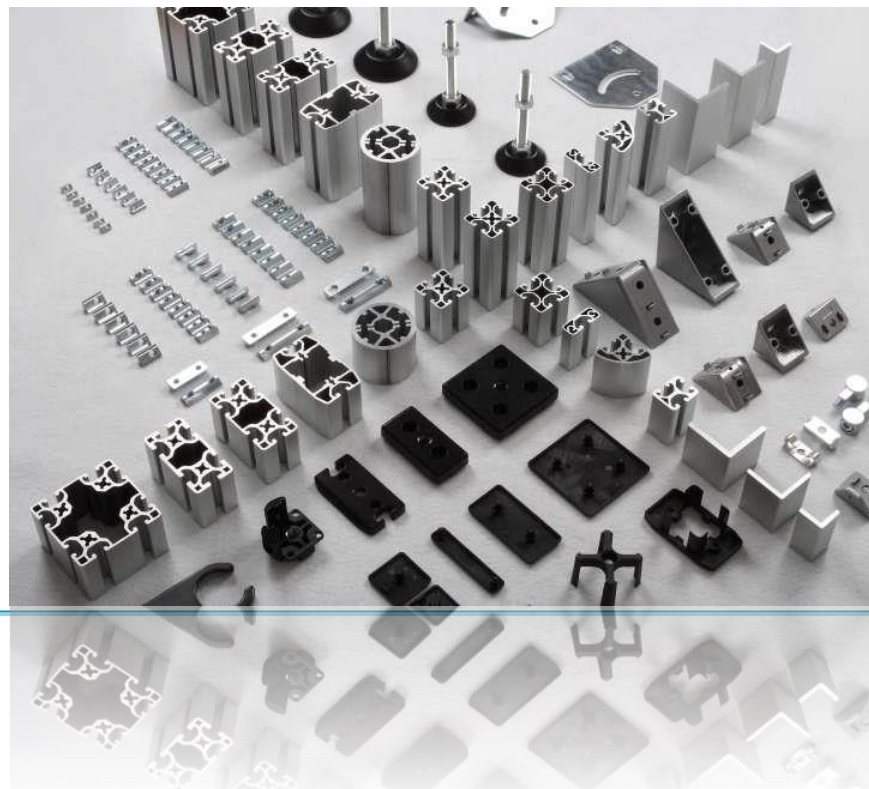


PLASTIC

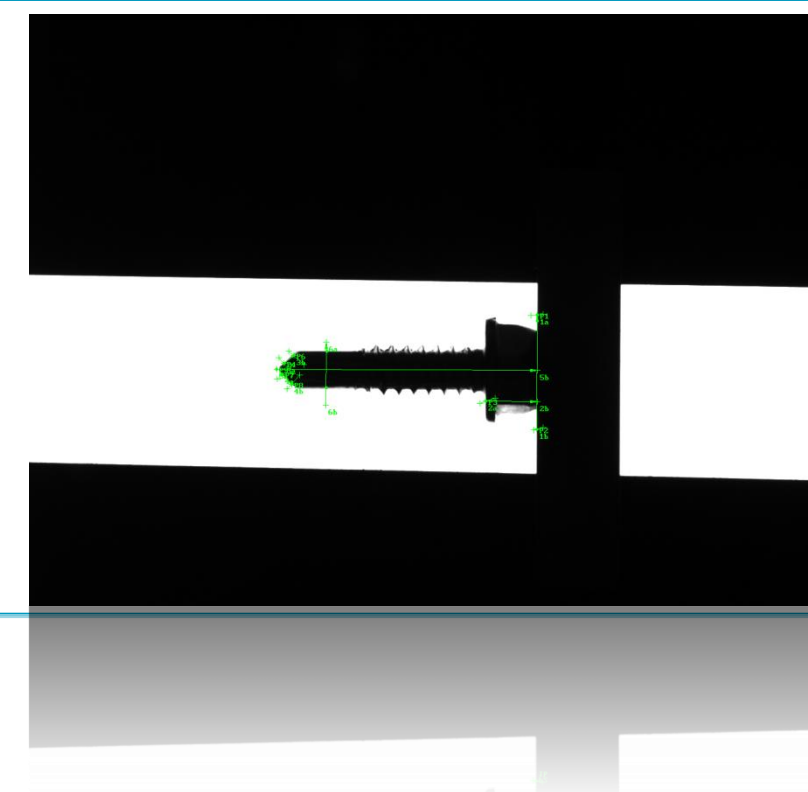


SPRINGS

Smart_Projector - *Niche Markets*

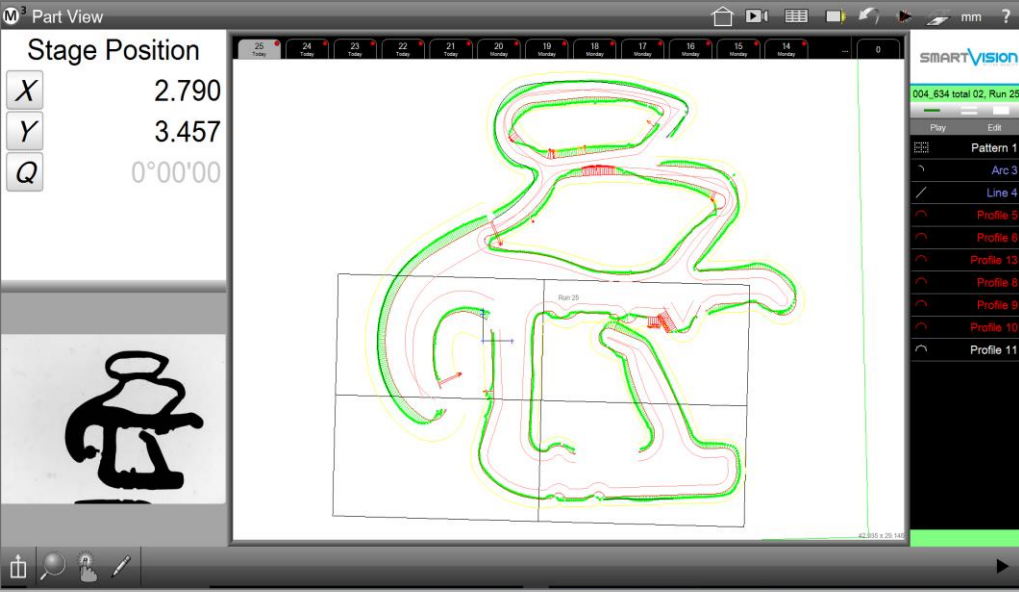
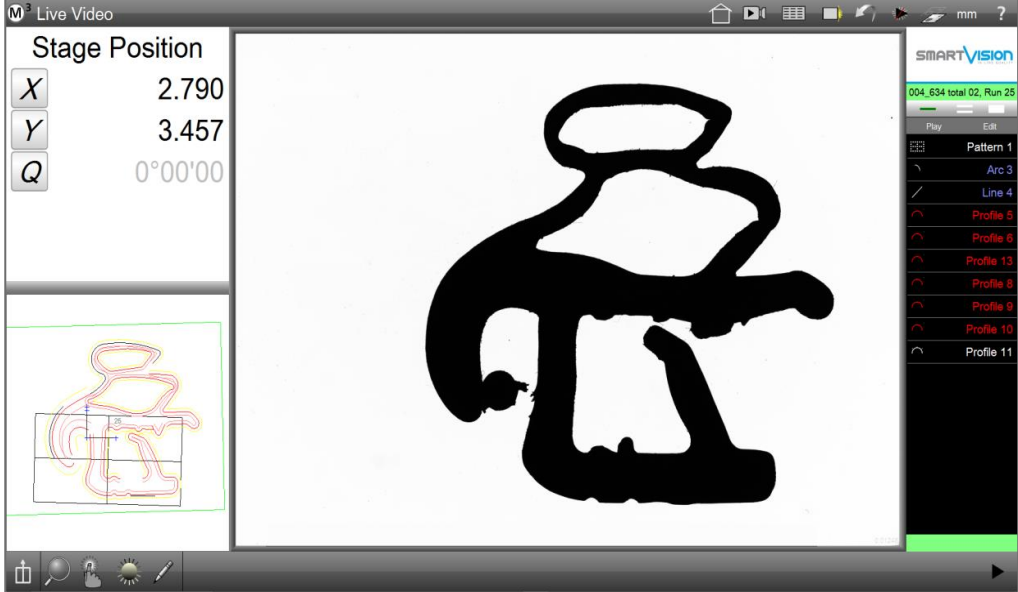



EXTRUDED ALUMINIUM

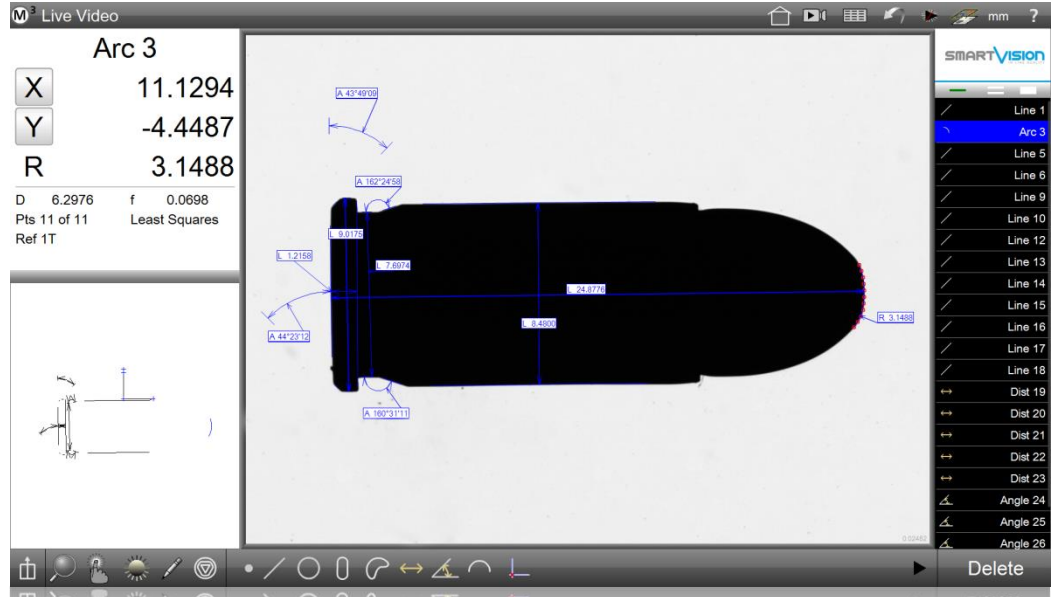
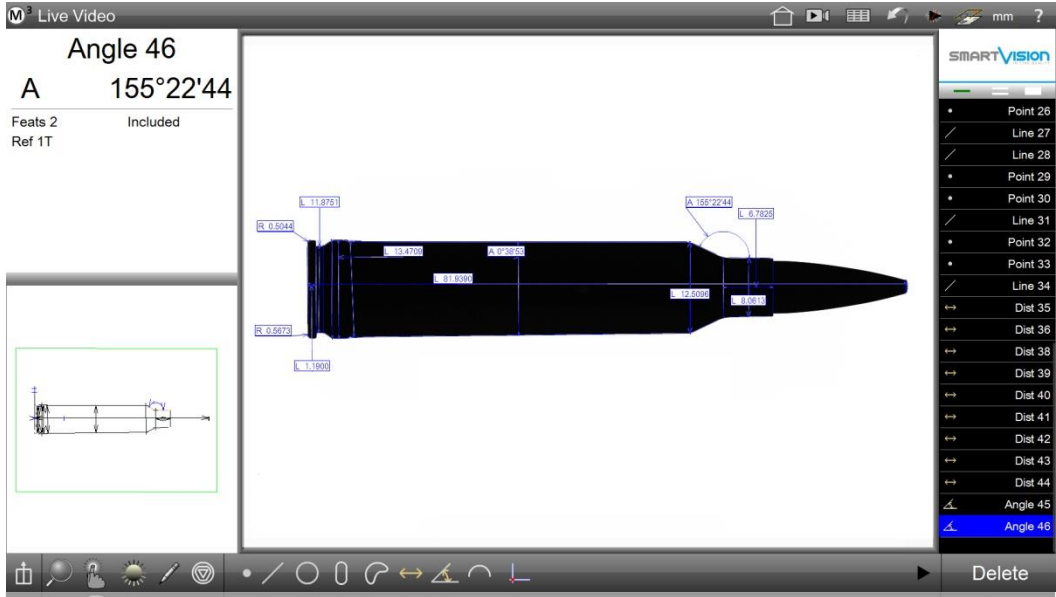



SCREWS

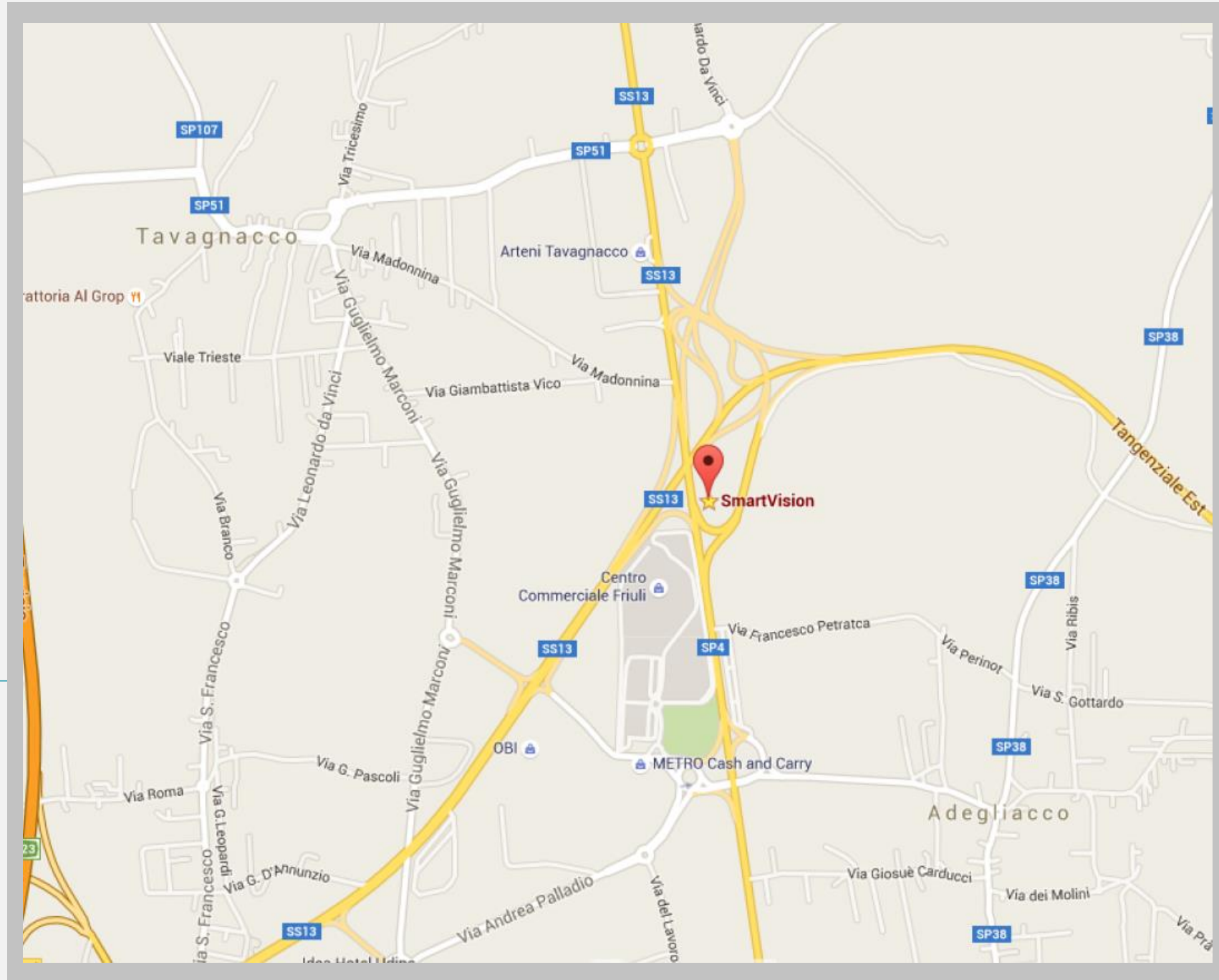
Smart_Projector - *Niche Markets*



SEALS & GASKETS



AMMUNITION



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THANK YOU!

ANY QUESTION?