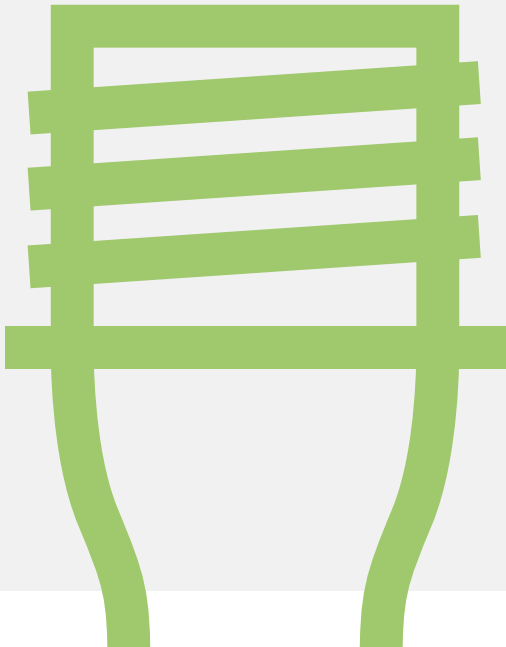


# PREFORMS

VISION INSPECTION SYSTEMS  
FOR THE  
PLASTIC PACKAGING INDUSTRY





# INTRAVIS

***WE SOLVE PROBLEMS.  
BEFORE THEY OCCUR.***

## **HOW WE LIVE OUR VISION**

Your quality control requirements present tasks that we gladly face and successfully solve every day. At INTRAVIS, engineers, skilled workers and technicians work every day to find solutions for challenges in the plastic packaging industry that have not been solved yet. Our customers benefit from more than 30 years of experience in the plastic packaging industry.

For many years, we have been dealing with topics that are challenges for the industry today. We ask ourselves: How can vision inspection systems deliver added value for production processes?

What contribution will quality inspection solutions make to the smart factory of the future? How can inspection systems and analysis software help to increase production efficiency?

Finding answers together with customers and partners is what drives us every day.

# INTRAVIS

## ABOUT US

### **SIMPLY BETTER PRODUCTS**

For more than 30 years, producers in the plastic packaging industry have relied on INTRAVIS solutions. In the areas of preforms, closures, stretch- and extrusion-blown bottles and containers, as well as decoration, we offer systems that meet all of the requirements of a sustainable quality inspection solution.

**You have the choice:** do you need a cost-effective standard system which fulfills fundamental inspection tasks, or a specialized solution ready to fit your specific needs? Whether you want to inspect inline or offline – all of our solutions are flexible and customizable.



#### **PREFORMS**

- PreMon
- PreWatcher Offline
- PreWatcher Inline
- Sample-PreWatcher
- ColorWatcher Lab
- LayerWatcher



#### **BOTTLES & CONTAINERS**

- SpotWatcher Basic
- SpotWatcher
- SpotWatcher Customized
- SpotWatcher Pharma
- IntraOne
- BarrierWatcher

## **INTRAVIS SYSTEMS OFFER:**

1. Security that you will always deliver the best possible quality to your customer



### **CAPS & CLOSURES**

CapWatcher Q-Line  
CapWatcher Compact  
CapWatcher B-Line  
CapWatcher SC  
CapWatcher FC  
IntraOne  
BarrierWatcher

### **PERIPHERY**

CapFeeder  
CapFeeder + Tower Hopper  
Cross Conveyor  
Cooling Conveyor

2. Full production control and optimization of your production process
3. High comparability of different production conditions and results
4. Turnkey systems with complete commissioning and extensive 24/7 service
5. Customized solutions for perfect integration into the your production or laboratory



### **LABELING & DECORATION**

LabelWatcher  
LabelWatcher 360°  
IMLWatcher  
SleeveWatcher  
IntraOne

# INTRAVIS

## ABOUT US

### YOUR ADVANTAGES

There are many reasons to buy an INTRAVIS inspection system. Some examples of how you can benefit from our solutions:

### RENOWNED SOLUTIONS

- INTRAVIS technology helps you to be a global leader in the plastic packaging industry
- We are driven to develop innovative solutions to new and customized challenges
- INTRAVIS means quality “Made in Germany” trusted by many global players



#### **BARRIER LAYER**

BarrierWatcher  
LayerWatcher



#### **SOFTWARE**

IntraVision  
IntraVisualizer  
IntraRecommender

### **PROCESS OPTIMIZATION**

- Get unique insights into your production process through comprehensive statistics, reports, diagrams and trend calculations
- Connect your INTRAVIS systems with your Manufacturing Execution System (MES) to take the next step towards your Smart Factory of the future
- Fast and space-saving integration into your production line or laboratory

### **SECURITY**

- Enjoy the security of delivering only flawless products to your customers
- In-house programmed and userfriendly software interface to ensure that your machine operators easily handle the system on their own

- Assurance of regular maintenance and immediate troubleshooting thanks to our worldwide network of service centers and our free telephone hotline

### **PARTNERSHIP RELATIONS**

- In cooperation with you, our team is looking forward to developing a customized solution for your individual inspection task
- We strive for long-term partnerships to provide our customers with a complete and interconnected inspection solution for an entire plant or even multiple sites





# PREFORMS

INTRAVIS offers premium quality control systems for plastic bottle manufacturers, fillers, injection molders and preform producers. They appreciate the easy handling as well as the huge amount of inspections and functionalities. Overall, our preform vision systems help them to meet their product quality standards, comply to legal regulations, and to deliver only flawless products to their customers.

A comprehensive inspection of each preform for a huge range of defects is covered by our preform vision systems. Moreover, measurements are carried out in the areas of the thread, body and gate. Even the cavity number of each preform can be read providing detailed cavity-related statistics.

# PREFORMS

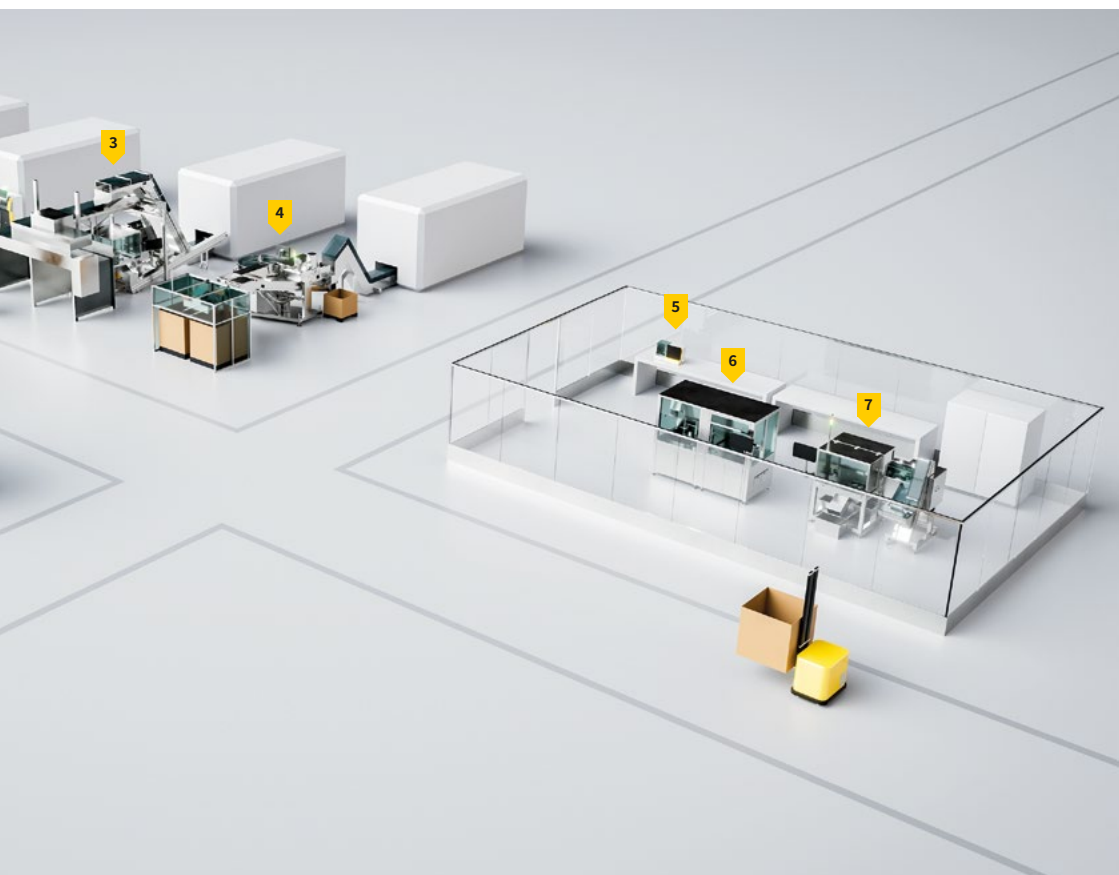
## OVERVIEW

INTRAVIS preform inspection systems support you at many points in your quality control concept. Our systems can be used both inline directly behind the injection molding machine and offline in the warehouse or laboratory.

The range of inspection solutions is huge: Our **monitoring system** provides a well-founded insight into the quality of the preforms in your octabins. In contrast, our **high-speed inspection systems** allow you to comprehensively inspect enormous quantities of preforms within a very short time. With our **laboratory systems**, you get highly precise, human-independent and repeatable measurement results that support your staff in the quality laboratory.



- 1 PreWatcher Offline
- 2 PreMon inline behind an IMM
- 3 Sample-PreWatcher inline behind an IMM



**4** PreWatcher Inline behind an IMM

**5** ColorWatcher Lab on a laboratory table

**6** LayerWatcher in the quality lab

**7** Sample-PreWatcher in the quality lab

# PREFORMS

## COMPARISON

Each preform inspection system is designed for individual applications and fulfills typical requirements for the quality assurance of your preforms.

	INTEGRATION			FOOTPRINT m <sup>2</sup>	MAX. PERFORMANCE parts / h
	Inline	Offline	Laboratory		
<b>PREMON</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	< 1.5	128,000
<b>PREWATCHER OFFLINE</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	84,000
<b>PREWATCHER INLINE</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8 <sup>1</sup>	72,000
<b>SAMPLE-PREWATCHER</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2.5	1,200
<b>COLORWATCHER LAB</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0.25	720 <sup>2</sup>
<b>LAYERWATCHER</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3	144

<sup>1</sup> Including feeding, orientation and inspection

<sup>2</sup> Manual feeding | Handling time: up to 5 s / part | Measurement time: up to 10 ms / part



**WHICH ONE FITS YOUR NEEDS  
BEST? GET IN TOUCH WITH  
OUR SALES TEAM.**

## INSPECTION CRITERIA

- |                                  | 0                                   | 1                                   | 2                                   | 3                                   | 4                                   | 5                        | 6                        | 7                        | 8                        | 9                                   | 10                       |
|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| Dimensions                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Contamination                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Short shots                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Scratches / notches / dents      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Color                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Length of injection gate         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Bubbles                          | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Oil marks                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Burn spots                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Holes                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Unmelted material                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Cavity number reading            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Defects at the neck support ring | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Stress test                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Core shift                       | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Weight                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Barrier layer                    | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

# PREFORMS

# PREMON

The PreMon is the budget-friendly and space-saving solution for high-volume real-time assessment of the most important preform quality characteristics. The system combines a revolutionary massive parallel orientation technology with a preform monitoring concept. While the preforms are being conveyed to the packaging unit, the PreMon continuously inspects a significant part of the preform flow and thus detects un-

desirable trends at an early stage.

## **PREMON PLUS WITH EJECTOR**

With the PreMon PLUS option, defective preforms can even be ejected. This leads to an error rate reduction during the initial filling of your octabins. To ensure that you always deliver the right quantity of preforms to your customers, the PreMon offers an ejection compensation that counts ejected preforms



Dedicated cameras inspect the top sealing surface



and compensates them by preforms from additional shots.

### **OCTABIN AND TIME-BASED STATISTICS DASHBOARDS**

As a monitoring system, the PreMon provides its operator a comprehensive quality picture. The data and information obtained is presented in a clear dashboard. Therefore, the PreMon serves as an extensive source of information: Are you interested in the quality of each octabin to decide whether to resort it or deliver it directly? Then the PreMon's Octabin Statistics will provide the information needed. If you would like to find out about the quality of the whole production based on a time interval or a specific inspection criteria, then the PreMon supports you with the IntraVision statistics dashboard.

With the PreMon Wizard, the reference creation of a new product is easy and time-saving. The Wizard actively sup-

ports the operator in finding the optimal settings. The operator is guided through the setup process by simple steps. Some of them are even automatically carried out by the system. In this way, the operator can create a new reference in less than one minute – even while the production process is running and products are being inspected.



Immediate production feedback and real-time quality results directly after injection



PCR-ready: specially designed to inspect post-consumer recycled preforms



Octabin statistics: inspection rate, type and proportion of defective preforms per octabin

# PREFORMS

## PREWATCHER

## OFFLINE

With the PreWatcher Offline, you expand your quality control concept with a high-speed inspection system that can be used in your warehouse to quickly resort preforms of your retained production, or it is integrated into your production line. Since it is delivered as a turnkey system, you get

a ready-to-use all-round solution for 100% inspection without any blind areas.

### COMPREHENSIVE INSPECTION

With an inspection speed of up to 84,000 preforms per hour and the installation of up to 18 cameras, the Pre-



High-speed, comprehensive inspection of transparent, translucent and opaque preforms





Watcher Offline is ideally suited for a fast and comprehensive inspection of important quality features. No matter whether your preforms are transparent or opaque, big or small – the system guarantees full product safety.

With the optionally available second ejector, you receive wide-ranging application options: Simply use this ejector station to collect samples for even more precise inspection in the laboratory, or individually sort out contaminated preforms to directly exclude them from the recycling process.

### EASY-TO-USE SOFTWARE

The PreWatcher Offline's reference creation makes life easier for your operators. Within a few minutes and without stopping production, you can create a new reference – guided and supplemented with helpful tips for optimal referencing. Thanks to the Intra-Vision's intuitive operation, this is no

challenge at all.

You can also strengthen your customer relationships by sending comprehensive inspection reports which prove the quality of your products. Thanks to a data connection, these exportable reports are available in the inspection system as well as in your ERP or MES system at any time.



Full product safety: 100 % full control without any blind areas



Precise separation and positioning for a comprehensive inspection of every detail



Cavity blacklisting: rejection of all preforms of a specific cavity

# PREFORMS

## PREWATCHER

### INLINE

Feeding, orientation and inspection: With the PreWatcher Inline, you get the compact 3-in-1 solution for your preform inspection. Integrated directly behind an injection molding machine in your production, your preforms are gently oriented, fed and

comprehensively inspected on an area of just 8 m<sup>2</sup>. The change parts adapted to your products guarantee a precisely fitting transport to ensure the highest precision in the inspection of your preforms.



Thanks to a sophisticated mechanism, the preforms are presented 360° in front of the cameras and thus inspected completely and in detail



## **NO RE-SORTING THANKS TO COMPREHENSIVE INSPECTION**

Eight cameras, a photospectrometer and more than 20 different inspections ensure that your customer only receives defect-free preforms for further processing.

**BECAUSE:** Bad parts are of course ejected directly by the PreWatcher Inline. Since the PreWatcher Inline inspects every preform of a production line, there is no need to re-sort the oc-tabins, saving you time and money.

## **OPTIMIZATION THANKS TO CAVITY-RELATED QUALITY STATISTICS**

In addition, you receive comprehensive quality statistics based on the inspections performed, including cavity

correlation. This provides you with important information for improving your production process in real time.



Compact design: feeding, orientation and inspection on 8 m<sup>2</sup>



100 % control: all preforms are comprehensively inspected



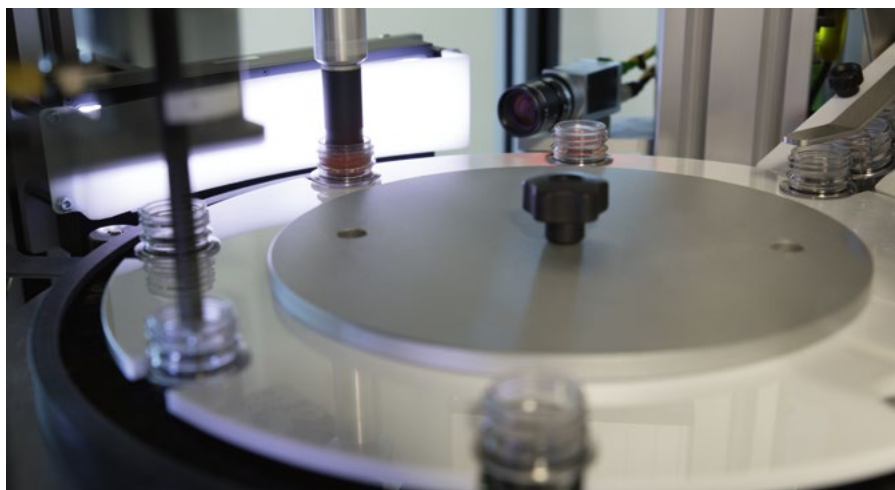
Time saving thanks to inline inspection: no re-sorting in the warehouse necessary

# PREFORMS

## SAMPLE- PREWATCHER

The Sample-PreWatcher offers a precise and extensive measurement and inspection of preform batches. The system is typically used as a laboratory system or it is integrated in the production line behind the injection molding machine. The Sample-

PreWatcher provides a full range of quality lab inspections – at speeds up to 1,200 preforms per hour. Within just a few minutes, you receive cavity-related information about weight, dimensions, color, cosmetic and other defects for a full shot of preforms.



Precise and extensive measurements of your preforms



Thus, you can make quality decisions many times faster than relying on manual measurements.

### COMPREHENSIVE STATISTICS

All data collected is visually presented in comprehensive statistics and condensed into trends. The entire data can be forwarded to analysis software (for example the IntraVisualizer) for further evaluation. This allows you get in-depth insights into your production quality, and to exploit the data to monitor and improve the production process.

### SUPPORT FOR QUALITY TEAM

The Sample-PreWatcher offers perfect support to your quality team. Comprehensive inspections are carried out and documented with repeat accuracy and little effort.

Strengthen your customers' trust in your products by always delivering the best possible quality! The more data you have about your production, the more confident you can be about the quality of a delivery. The data can be directly transferred into your ERP or MES system.



Repeatable and accurate inspection and measurement of all quality characteristics



Sophisticated quality lab inspections: wall thickness, thread, weight, color, and more



Exportable reports with cavity-related quality information

# PREFORMS

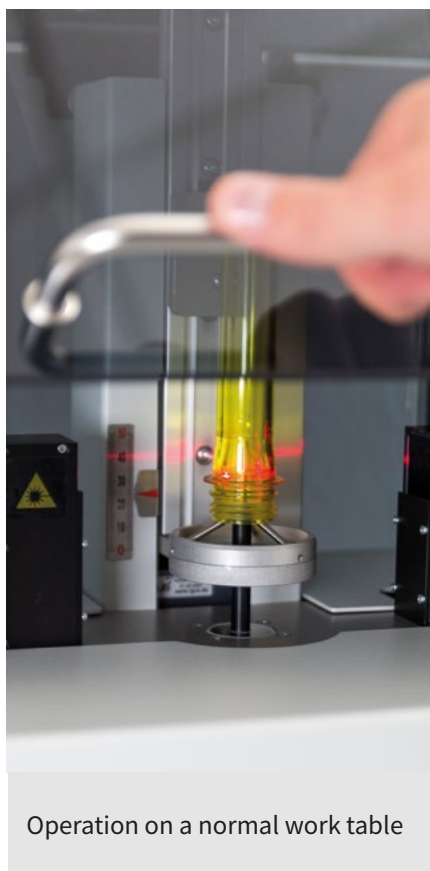
# COLORWATCHER

# LAB

With the rise of the use of recycled material, color deviations have become one of the most common defects in the production of preforms. Even small color variations can lead to a distorted perception of the final product. Therefore, color accuracy of preforms is one quality criterion that your customers will pay attention to. In addition, too much color in a preform can indicate too much masterbatch use, and thus inefficiencies in the process.

## **SPECIAL SOLUTION**

To detect color deviations, a targeted inspection is required. The Color-Watcher Lab focuses specifically on the inspection of color deviations, making the work of your team in the quality lab much easier. As its name suggests, the ColorWatcher Lab is designed as a laboratory system, intended to operate on a normal work table. It reliably inspects the color accuracy of your preforms.



Operation on a normal work table

## OBJECTIVE, REPRODUCIBLE INSPECTIONS

The ColorWatcher Lab utilizes a spectrometer that can inspect transparent, translucent, and opaque preforms. It is adjustable and requires no change parts.

Thanks to objective and reproducible measurement results, it doesn't matter whether the inspection is performed by an expert or a trainee – the results will always be the same.

The inspection results are available immediately after the measurement. The system provides extensive, exportable reports that enable you to respond quickly and convincingly to customer inquiries. Optionally, a network connection is available to export all data to your local data processing system.



Inspection of color accuracy:  
Spectrometer for transparent,  
translucent and opaque preforms



Precise results: reproducible,  
objective measurements of color  
deviations



No change parts required and  
applicable on a normal work table

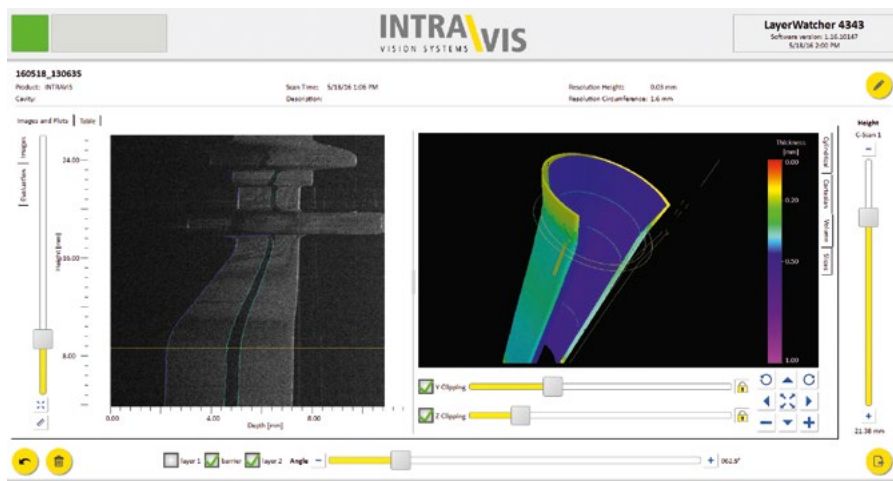
# PREFORMS

# LAYERWATCHER

## MULTI-LAYER MEASUREMENT

INTRAVIS took the challenge to develop a multi-layer preform measurement and inspection station that is capable of measuring and reporting the position and distribution of core layer material in a non-destructive and ob-

jective way. The result is the Layer-Watcher, an offline inspection system for barrier layers of PET preforms. The LayerWatcher measures the thickness and presence of different layers of clear and translucent preforms. The preforms are given into the system as a



Non-destructive multi-layer preform measurement





shot and are identified by their cavity numbers. In about 45 seconds, the LayerWatcher inspects the barrier material. Afterwards, the results are shown in a visualization of individual layers, and a comprehensive 3D over-all image of the preform.

### SCAN WITH OPTOSONIX TECHNOLOGY

The LayerWatcher is able to measure all layers of the entire preform thanks to its revolutionary OptoSonix scan technology. It identifies the layers by their different optical characteristics. The measuring results are an accumulation of up to 100,000 measuring points within the preform layers. These points have a minimum grid step of 0.2 mm, and thus create a dense mesh that indicates the layer thicknesses. For layer thicknesses of at least 50  $\mu\text{m}$  (micron), the LayerWatcher has a measurement accuracy of  $\pm 10 \mu\text{m}$ .

In a second step, the data is processed and compressed into few clear parameters defining the characteristics of the layers: Where does the layer start? Where does it end? How thick is it in certain areas? According to these characteristics, the operator can re-adjust the production process and define limits.



High-precision layer inspection: non-destructive, repeatable and accurate inspection method



Visualization of results: detailed 3D layer image and exportable quality reports



Cavity-related statistics: automatic cavity number identification



# SOFTWARE

## **TAILOR-MADE FOR THE PACKAGING INDUSTRY**

Our specialized teams work every day to understand the requirements of the packaging industry and develop solutions that are precisely tailored to your applications. User-friendly, practical and powerful: Whether you are a machine operator or production manager, our systems help you to concentrate on the essentials: smooth, efficient production.

## **TWO GOALS – YOUR ADVANTAGE**

- 1. Ensure quality:** Defective products are reliably detected and ejected. Our IntraVision software – the heart of all INTRA VIS inspection systems – identifies and analyzes defects quickly and precisely.
- 2. Increase productivity:** Fewer rejects, lower costs, higher profitability. Meaningful statistics and data analysis tools in IntraVision, IntraVisualizer and IntraRecommender help you to identify and avoid production errors at an early stage.

# SOFTWARE

# INTRAVISION

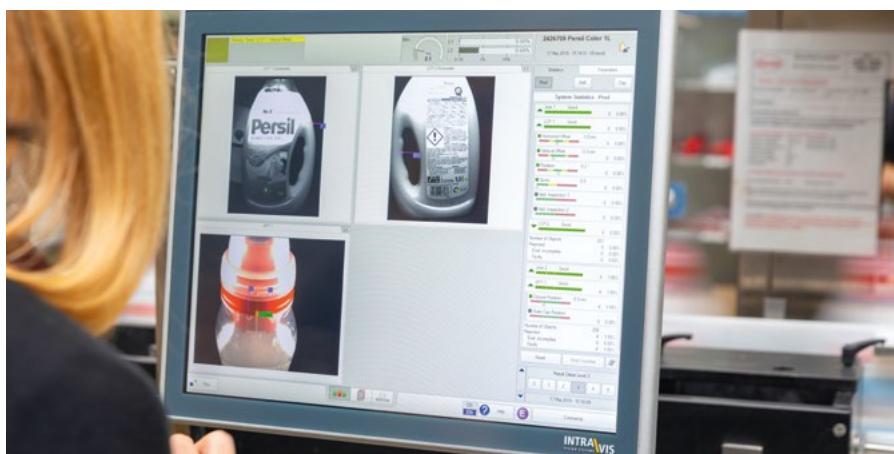
## **RELIABLE. SIMPLE. TAILOR-MADE.**

With IntraVision, you can monitor your product quality automatically, precisely and in real time. The software is individually tailored to your products and contains specific inspection modules for your relevant quality features. This allows you to

ensure the highest standards – from the first to the last production unit.

## **INTELLIGENT ALARMS**

IntraVision offers a reliable self-monitoring function for your inspection system: defects in inspection-relevant components are detected and



IntraVision UI for an integrated LabelWatcher

reported at an early stage. This keeps your quality control stable and efficient at all times.

IntraVision also identifies fault sequences such as ejection errors and triggers targeted alarms – before major problems occur. Actively prevent faults and failures and reduce unwanted machine downtimes to a minimum.

### **DATA AND REPORTS – CONVINCING AT A GLANCE**

With IntraVision you get:

- Detailed evaluations of all inspection criteria
- Seamless integration through data export (via FAS)
- Seamless integration with our cloud products, such as IntraVisualizer, our data monitoring and analytics tool.

### **PROCESS SECURITY**

By setting up an audit trail, you can track changes to process settings at any time.

IntraVision also offers extensive options for assigning authorizations. Each operator is granted only the access rights they need.



Customized extensions: tailored to your individual production requirements



Easy operation: software developed for machine operators



High data availability: comprehensive statistics, reports and connection to your MES systems

# SOFTWARE

# INTRAVISUALIZER

## DATA EMPOWERS

Nowadays, inspection systems offer a huge amount of data and deep insights into your production lines. But are you already utilizing all this information?

## IMPORTANT DATA AT A GLANCE

IntraVisualizer is a powerful software solution for the visualization and analysis of production data – specially developed for the requirements of modern production environments. The software seamlessly connects all IN-



Data analytics software for comprehensive analysis of all production lines simultaneously

TRAVIS inspection systems, creating a central platform for your quality and process data.

The intuitive user interface gives you real-time insights into production processes, quality indicators and system states. This allows you to identify trends, deviations and optimization potential at a glance. IntraVisualizer supports you in making well-founded decisions, improving processes in a targeted manner and strengthening your quality assurance in the long term.

With IntraVisualizer, you stay informed anytime and anywhere: whether on the shop floor, in the office or from another production site – you can access your data conveniently via smartphone, tablet or computer. This allows you to keep an eye on your production even when you are on the move and need to react quickly and flexibly.

## CONVENIENT USE

IntraVisualizer is available to you as a cloud solution. Always stay up to date with the latest online software and security. No more time-consuming analyses of reports, because the data comes to you: benefit from our automatic data analyses and real-time notifications.



Performance monitoring of all inspection systems at a glance



Detection of quality issues and their reasons to increase production efficiency



Trend analysis to detect maintenance needs and minimize unplanned downtime

# SOFTWARE

# INTRA- RECOMMENDER

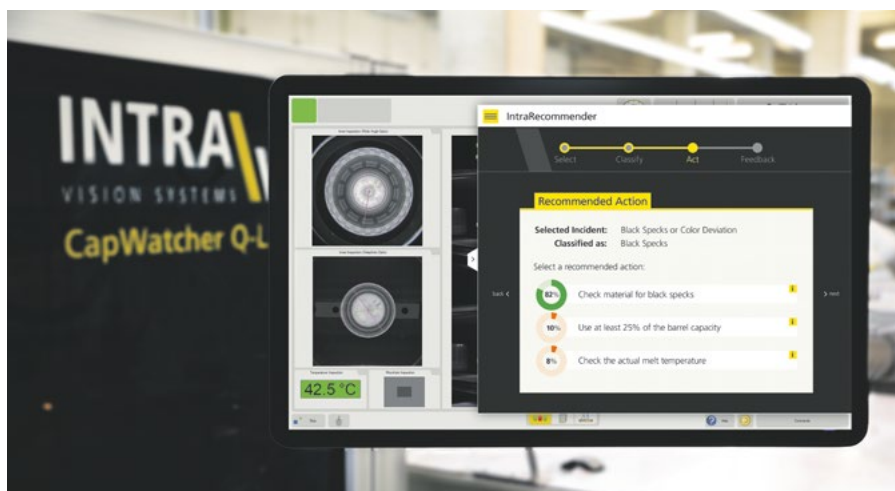
## INTELLIGENT PRODUCTION ASSISTANT

Exploit the full potential of artificial intelligence and integrate it into your production.

IntraRecommender is your intelligent production assistant, enabling every

machine operator make the right decisions immediately to solve production problems and significantly reduce machine downtime.

This takes the optimization of the production process and the overall effec-



Well-founded recommendations for optimizing the production process



tiveness of your production line to a whole new level.

### **DATA COLLECTION OF THE WHOLE PRODUCTION LINE**

IntraRecommender collects high-precision, comprehensive quality data from your INTRAVIS inspection system during production. At the same time, IntraRecommender receives a variety of important process data from the injection molding machine, hot runner, cavity pressure sensors and more via a robust OPC UA interface.

### **RECOMMENDED ACTIONS**

Machine learning algorithms analyze product and process data in real time, recognizing correlations and combining them with your process know-how. Based on this comprehensive database, the machine operator receives well-founded recommendations for optimizing the production process. As a result, IntraRecommender continu-

ously learns and creates an extensive knowledge database, specialized to your production process. Every machine operator receives the same reliable recommendations for action and can immediately make targeted decisions in the event of a problem.



Intelligent real-time recommendations for minimal downtime



Central knowledge database: expert knowledge is available to all operators



Intuitive operation: clear, understandable, and easy to use.



# SERVICE

At INTRAVIS, we recognize our customers as partners and invest in a long-term relationship. Therefore, our work does not end with the successful acceptance of the system.

Whenever questions or problems occur, INTRAVIS is ready to support you with skilled technicians and service locations spread over five continents.

# SERVICE WORLDWIDE

## RETENTION OF SYSTEM VALUE

If you decide to purchase an inspection system, you expect that it performs its tasks reliably and permanently. Regular service visits by our

qualified service technicians increase the average service life and ensure consistently high performance. How? Our technicians identify failing parts before they break, adjust your system



At your service at any time: our INTRAVIS service technicians

optimally for your inspection tasks, and train your team to keep your system performing at peak performance.

#### **MINIMIZE DOWNTIME AND COSTS THROUGH SERVICE VISITS**

Schedule service visits so that they match the service intervals of your upstream and downstream machines. In this way, your production line will have less downtime and you can resume production faster. A variety of service contracts are available that allow you to calculate your costs clearly in advance.

#### **RELIABILITY THROUGH SERVICE CHECKS**

Imagine your products must be shipped to the customer uninspected because your inspection system failed due to a missing wear part. Regular service checks ensure your inspection system operates reliably and without problems. Thanks to our service hot-

line and worldwide service centers, a technician can be at your site within the shortest possible time.

#### **PROCESS OPTIMIZATION BY TRAINED PERSONNEL**

An inspection system can only achieve optimum performance through the correct handling by a trained operator. Therefore, we offer training sessions for your key users with a final user certificate for every installation of a system. This training helps to perfectly operate the system in everyday life, and to draw the right conclusions from the comprehensive data that is generated by the system. Of course, you can receive additional training for new employees at any time.

# SERVICE CONTRACTS

Focus on your strengths, we take care of everything else. It does not matter how many INTRAVIS systems you have – a service contract guarantees maximum system availability.

To offer you full flexibility, our service contracts consist of a basic package and possible optional packages. Among other things, our basic contract contains:

- an annual service check,
- free software updates,
- telephone support, and
- the exclusive availability of a service technician departing within 96 hours.

For extra protection, you can include optional packages. For example, you can add 24/7 telephone support and faster availability of a service technician.

## ANNUAL SERVICE CHECK

INTRAVIS systems are stable and durable. Nevertheless, annual service checks are recommended for each of our systems. With an annual service check, you can make sure that your systems are in an optimal condition, so you can ensure a flawless inspection performance. This increases the effectiveness of your system and thus the efficiency of your entire production line.

## HIGHER SUPPORT AVAILABILITY

If you need a service technician on site, a service contract means that you are of highest priority. With an optional package, you have the security to reach a technician of our service department at any time and every day of the week.

## REMOTE ASSISTANCE

Some challenges need more than phone calls and email support. In



**MAXIMUM SYSTEM AVAILABILITY  
DESIRED? GET IN TOUCH WITH  
OUR SERVICE TEAM.**

these moments, remote assistance provides us the tools to assist you as if we were there.

- **REMOTE SUPPORT:** Our service technicians support you remotely by accessing your system with TeamViewer via Internet connection. In this way, we can quickly solve many problems from a remote location.
- **WHATSAPP SUPPORT:** For even faster and easier communication, you can also reach our service team via WhatsApp chat. This allows you to contact us directly, send pictures or videos and receive quick feedback – all from the comfort of your smartphone.

### **SPARE PARTS KITS AND TRAININGS**

We provide kits with the most frequently used spare parts. With these kits, you have the most important parts

for a maintenance job already on site.

And if you have new employees, you can always book training for your IN-TRAVIS systems whenever you need it. For more information, please contact us.



Remote guidance by our service technicians

# KEEP UP-TO-DATE



Do you already **follow us on our social media channels**? There are many different ways to stay connected with us. We are constantly sharing information about new developments, company insights, events and trade fairs as well as industry news.

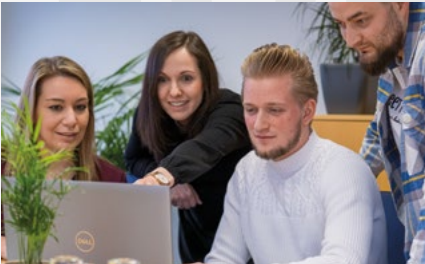
**Weekly updates** can be found in LinkedIn whereas Youtube is the right channel for watching our vision systems live in action. If you prefer to receive **the latest news directly in your digital inbox**, subscribe to our email newsletter. Last but not least, you can find in-depth articles about our innovations in the blog on our website.



**Scan the QR codes** to check us out across our different social media channels!



# CAREER AT INTRAVIS



The corporate culture among our employees is very amicable: whether during coffee breaks, lunch, cross-team meetings or company parties – **we place great value on personal and professional exchange.**



Open and respectful communication, feedback and a good working relationship are very important to us.



**Individual development** and the promotion of personal initiative are essential components of our corporate policy.



Our **fields of activity** are just as diverse as our entry-level opportunities. Whether in form of an apprenticeship, an internship, a student job or a permanent employment – with or without professional experience, as a career changer, full-time or part-time, with leadership responsibility or as a technical expert – **the opportunities are diverse.**



**[WWW.INTRAVIS.COM/EN/CAREER](http://WWW.INTRAVIS.COM/EN/CAREER)**

# CONTACT

## **INTRAVIS BRAZIL**

Sales & Service

T: +55 113 1972116

info-brasil@intravis.com

## **INTRAVIS DUBAI**

Sales

T: +971 55 2592089

uae@intravis.com

## **INTRAVIS GERMANY**

### **HEADQUARTER**

INTRAVIS GmbH

Rotter Bruch 26 a

52068 Aachen

T: +49 241 91260

info@intravis.de

## **INTRAVIS INDIA**

Sales & Service

T: +91 98860 33300

info-india@intravis.com

## **INTRAVIS JAPAN**

Sales & Service

STT Co., Ltd

T: +81 3 5577 6180

info-japan@intravis.com

## **INTRAVIS MEXICO**

Sales & Service

T: +52 55 4746 0436

info-mexico@intravis.com

## **INTRAVIS SOUTH AFRICA**

Sales & Service

Wrapetfill

T: +27 (0)83 441 8194

info-sa@intravis.com

## **INTRAVIS TAIWAN**

Sales

Intelligen Ti Enterprise Co.

T: +886 3 316 2766

info-taiwan@intravis.com



## **INTRAVIS THAILAND**

Sales

Advanced Inno Mac Co., Ltd.

T: +66 81371 9809

info-thailand@intravis.com

## **INTRAVIS TURKEY**

Sales

P2B Mühendislik ve Danışmanlık Ltd. Sti

T: +90 216 227 33 17

info-turkey@intravis.com

## **INTRAVIS USA**

INTRAVIS Inc.

303 Research Drive, Suite 200

Norcross, GA 30092

T: +1 770 662 5458

info-usa@intravis.com

## **INTRAVIS UNITED KINGDOM**

Sales

Plastech Solutions Ltd.

T: +44 800 0025687

info-uk@intravis.com

# GET IN TOUCH

## **INTRAVIS GMBH**

📍 Rotter Bruch 26 a  
52068 Aachen  
Germany  
☎ +49 241 91260  
✉ info@intravis.de

## **INTRAVIS INC.**

📍 303 Research Drive, Suite 200  
Norcross, GA 30092  
USA  
☎ +1 770 662 5458  
✉ info-usa@intravis.com



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