



PRINT INSPECTION FOR FLEXIBLE PACKAGING

100% inline quality control

ISRA
VISION
Part of Atlas Copco Group



- 100% inline inspection to control the entire web
- Faster and more reliable than the human eye
- Monitoring throughout the entire printing process
- Increasing the amount of saleable material
- Avoiding waste from the earliest possible point in time

PRINT INSPECTION FOR FLEXIBLE PACKAGING

ISRA VISION is your partner when it comes to finding solutions for print inspection for printed flexible packaging. As a globally active machine vision company, we focus on providing customized solutions with modern, high-performance cameras, lighting systems tailored to the respective application and intelligent software solutions and algorithms. Our experience in a wide range of industrial segments gives us comprehensive expertise in this context. Our inspection systems and software accompany you through the entire production process. The raw materials may already have been inspected by ISRA VISION during production. This provides you with the full experience and expertise of industrial image processing.

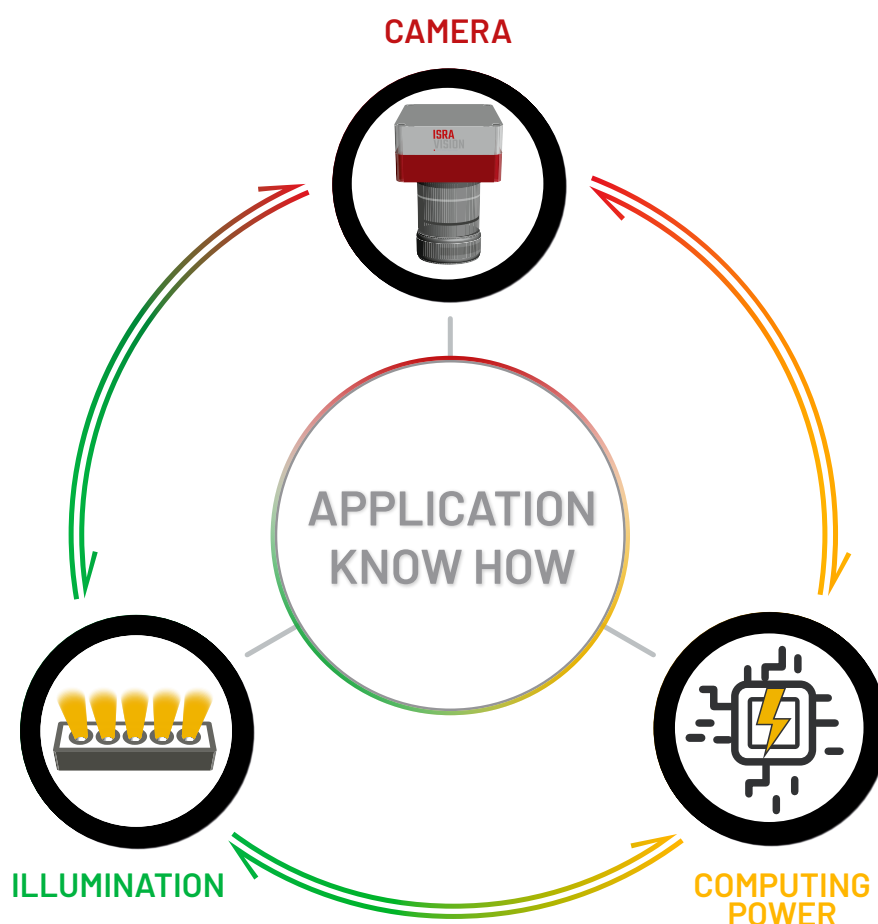
At the point of sale, the aesthetic appearance plays a decisive role in the perceived quality of the packaged product. Consumers often make intuitive decisions here and draw conclusions about the content quality and even product safety from the packaging. Poor print quality can lead to the end of the product. In view of the high-cost pressure and the need for resource-saving, sustainable manufacturing processes, the production of flexible packaging is a top priority.

The most common challenges include defects in printing, sealing, coating, and lamination. To meet these requirements, 100% inline inspection systems are the optimal solution.

These systems automatically take over quality control and precisely ensure that the end-product conforms with customer expectations. Thanks to high-quality cameras and intelligent lighting technology, printing defects can also be reliably detected at high production speeds - a task that is impossible for the human eye.

The strength of ISRA VISION:

- In-house production of high-performance cameras
- Intelligent illumination solutions
- Sophisticated & application-oriented software features



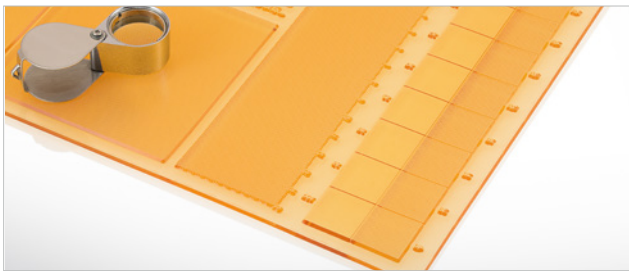


See
video:

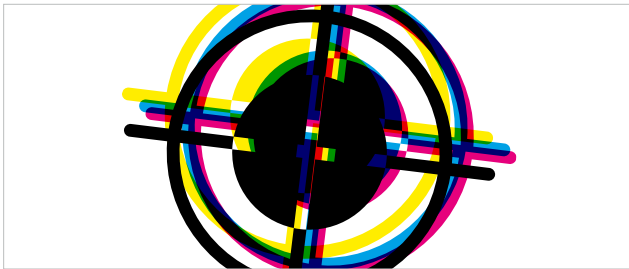
PRINT INSPECTION FOR FLEXIBLE PACKAGING

Monitoring throughout the entire printing process

Our inspection solutions accompany you through the entire printing process: from make-ready and preparation to printing, web inspection, and finishing. You can rely on our systems at every step and take your production to a higher level of automation.



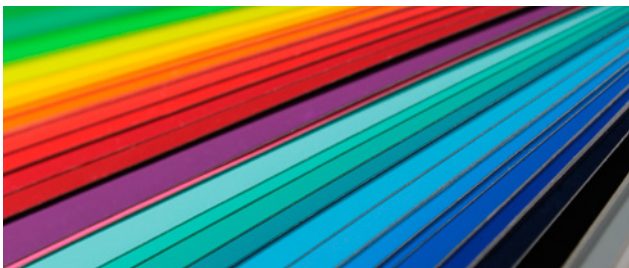
Waste reduction with 100% inspection starts as early as the make-ready process. PrintSTAR compares your future print image with a reference file approved by the customer. This allows you to find potential sources of defects directly, such as incorrectly inserted or faulty printing plates.



Set the printing units in register - preferably automated, thanks to the RegisterControl function integrated into the ViewSTAR webviewing system.



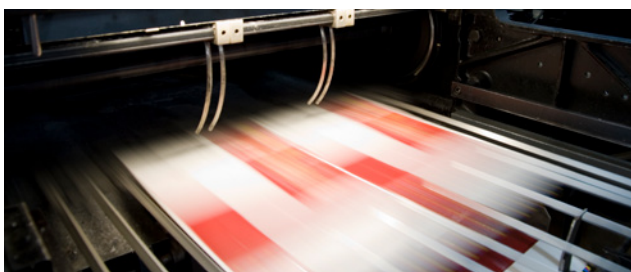
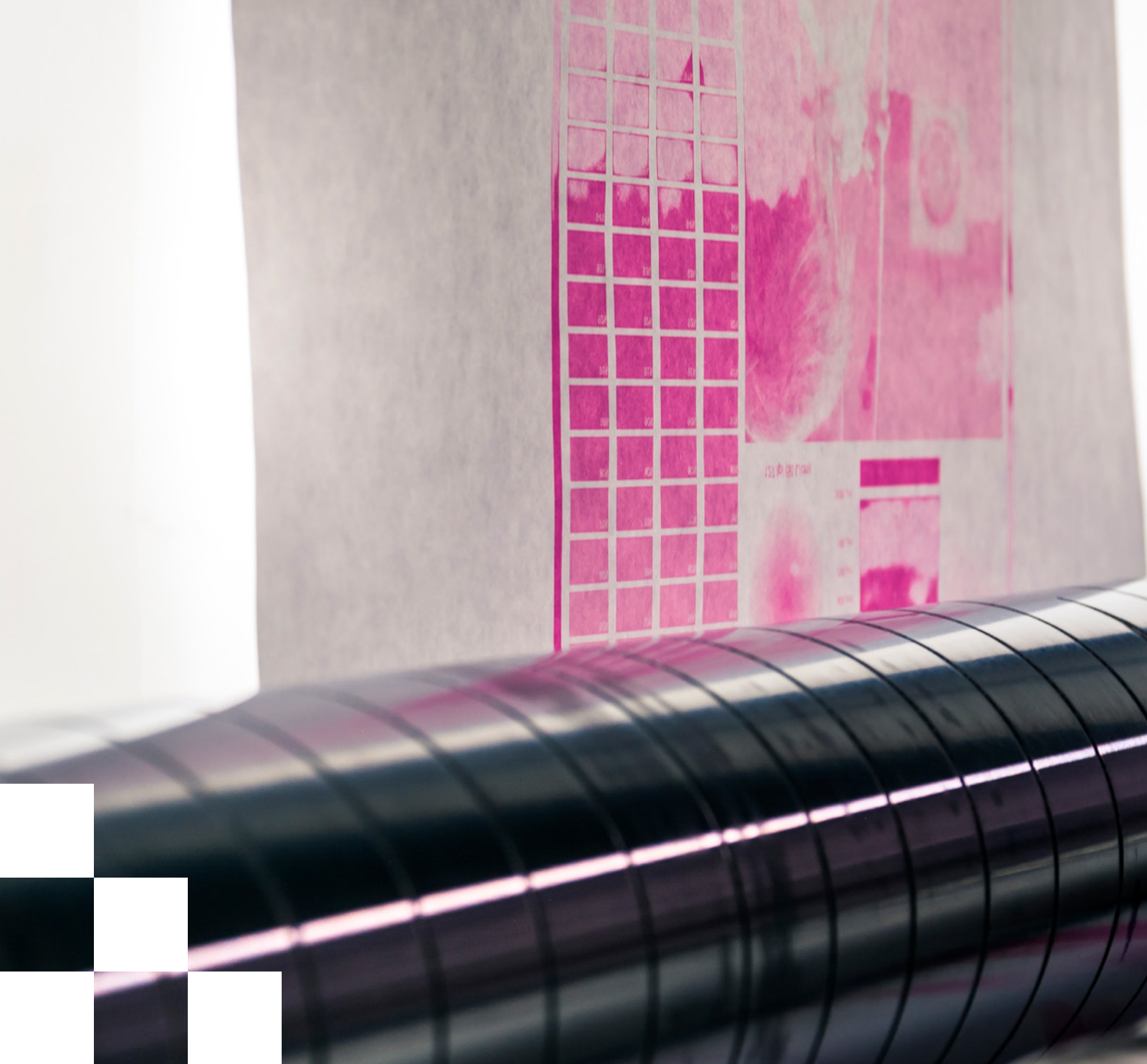
Find printing defects of all kinds: from splashes, streaks, register errors, contamination or unreadable barcodes or QR-codes to difficult-to-detect issues such as hazing, defects in protective or decorative varnishing or in the cold seal. Defect classification also allows you to filter out non-relevant defects and thus increase the quantity of saleable material



Color deviations lead to complaints by the brand owners on the customer side. Avoid these by using absolute color monitoring with ColorSTAR.



The optional ViewSTAR matrix camera and the PrintSTAR Live-WebView function provide an enhanced view of the printed repeat image.



Our inspection systems are equipped with additional tools for converting processes.



Thanks to production analytics platforms such as EPROMI, you can statistically evaluate the quality of your printing processes with real time data and unique reporting functions. This allows you to discover hidden cost-saving potentials.



MAKE-READY & WEBVIEWING

Minimized set-up times, a perfect view of the web, and register accuracy

Take your make-ready process to the next level of automation: thanks to the the ViewSTAR web viewing and PrintSTAR inspection systems, even the first steps, such as setting the printing units in the register or comparing the future print image with a PDF file verified by the customer, can run fully automatically. ViewSTAR takes over web viewing later during the printing process and monitors the finest print characteristics and color deviations with the highest resolution and color fidelity and offers precise web monitoring throughout the entire printing process. With the LiveWebView function, PrintSTAR also offers further monitoring of the current print image on a separate monitor. Here, the operator can zoom in or out to view small details or the complete repeat.

See
video: 

- Capable of monitoring transparent and UV inks
- Dynamic image stabilization - tolerates extreme web variations
- Excellent monitoring of highly reflective materials (with RL Model)
- Perfect tool for the operator due to automatic scan functionality
- Automated register settings
- Early prevention of waste

ViewSTAR RegisterControl:
Automated setting of the
printing units into the register

PrintSTAR QuickProof:
Comparison of the golden
master with a verified PDF file

PrintSTAR LiveWeb View: Live
image of the repeat with zoom
function

Challenges

The make-ready process has to be fast: Register setting, inserting the printing plates, etc. This is where mistakes can easily happen. The printing plate is defective or inserted incorrectly.

Our Solution

By comparing the golden master with a PDF file verified by the customer, the operator is made aware of errors and can correct them without creating waste.

PRINTING PROCESS

Control the print quality

The ever-increasing demand for brilliant print quality with short changeover times and competitive prices presents challenges for the flexible packaging printing industry.

Our automatic inspection systems ensure high image quality by reliably detecting and classifying defects, differentiating between serious and negligible ones. Real-time monitoring with corresponding alarms allows operators to intervene promptly to eliminate defects or adjust the printing process. Various defects like stripes, streaks, splashes, missing print images, or contamination are identified quickly. Additionally, our solutions can detect toner defects, such as hazing, ensuring that even subtle ink transfers are addressed to prevent costly misprints.

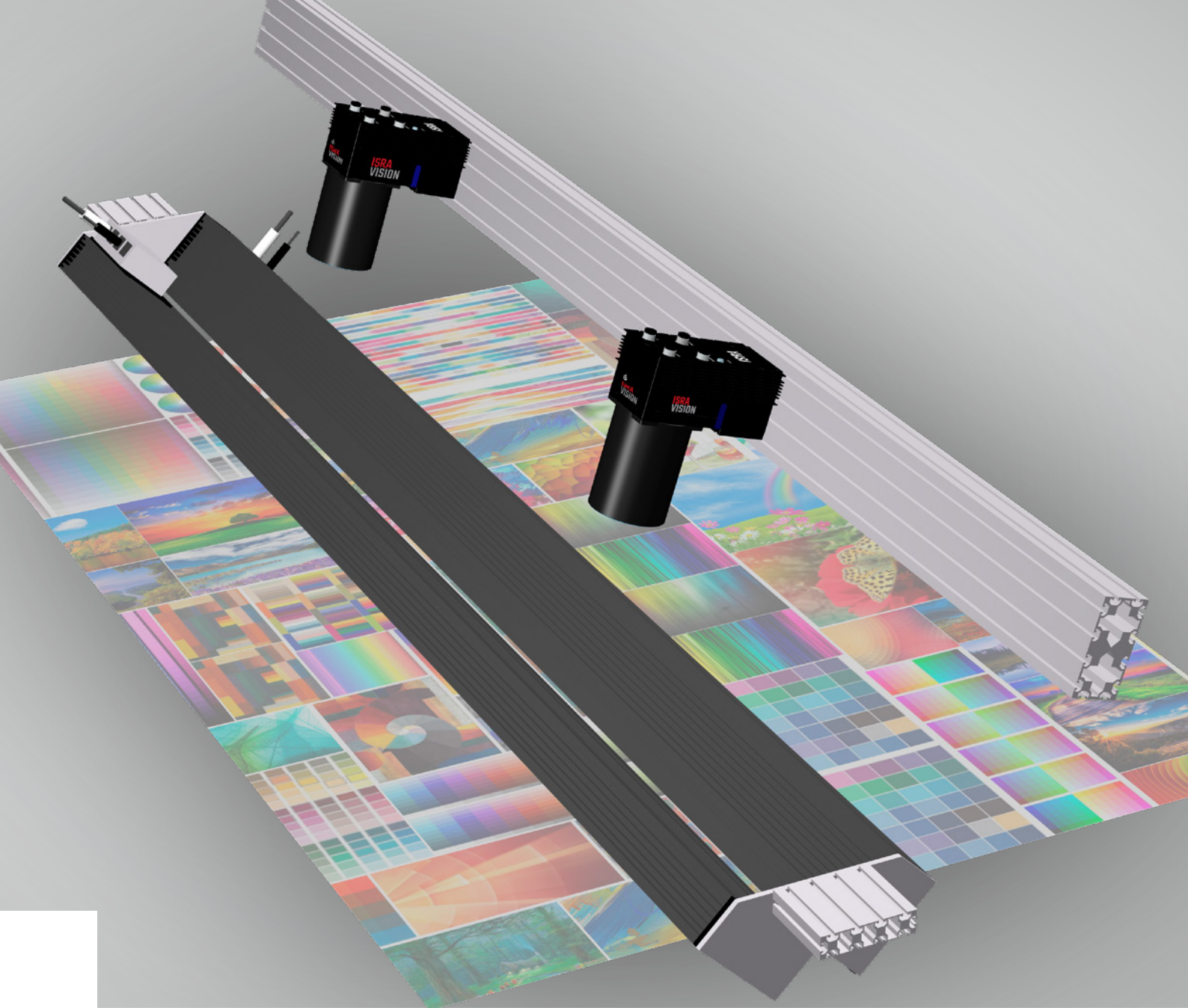
Furthermore, our intelligent inspection systems like PrintSTAR guarantee the legibility of barcodes and QR codes on flexible packaging, triggering alarms for unreadable codes so that operators can identify and rectify any issues promptly, ensuring codes always function correctly.



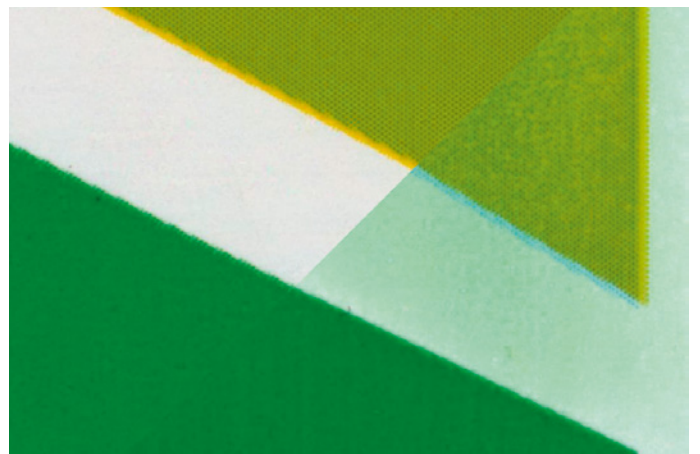
Spots & Splashes



Missing print



Streaks



Hazing



→

→

→

→

→

→ here and anytime, in as many areas in each repeat as needed

→ Reduce waste and cut-out samples

→

→

→ Real-time measurement gives the best possible feedback

→

→

→ Avoiding waste from the earliest possible point in time

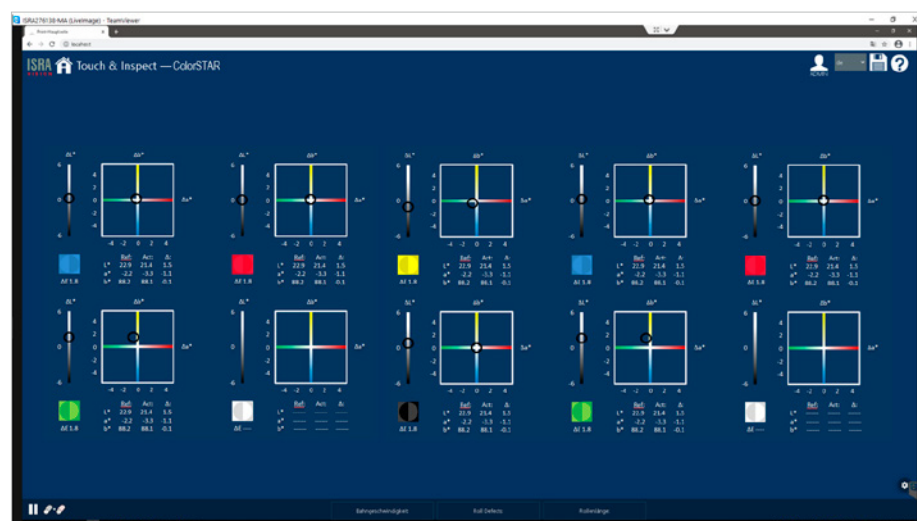


ALWAYS THE RIGHT COLOR

Absolute color monitoring

Accurate color reproduction is one of the outstanding features of high-quality packaging. Constant color consistency and continuous color measurement and control are of crucial importance. No matter what type of

packaging is involved: Brand manufacturers tolerate only minimal color deviations, because flawless packaging and consistent coloring are essential components of their brand promise.



Challenges

Achieving the correct color values for each print requires monitoring of the correct color reproduction and color values ($L^*A^*B^*$).

Our Solution

The economical PrintStar ColorWatch tracks color deviation with relative measurement, the ColorSTAR module provides absolute color measurement

Spectrophotometer according to color measurement standards

Automatic and continuous tracking of the measuring positions for all types of material, even for thin material with stretching, without the need for additional tracking devices

Simultaneous color deviation across the whole line width



Learn
more:

SMOOTH FINISHING

Varnish & cold seal

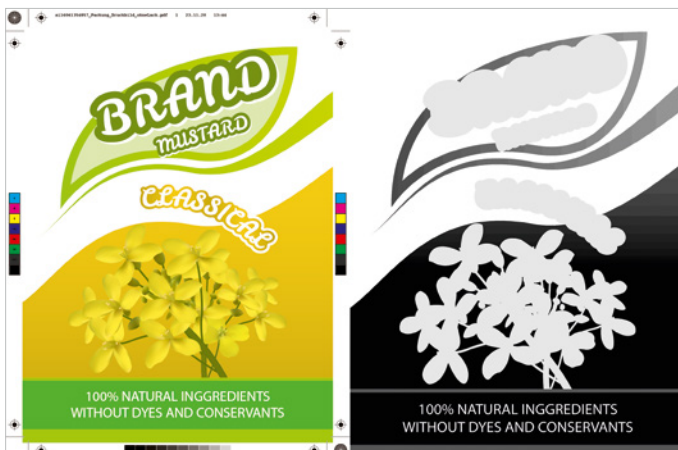
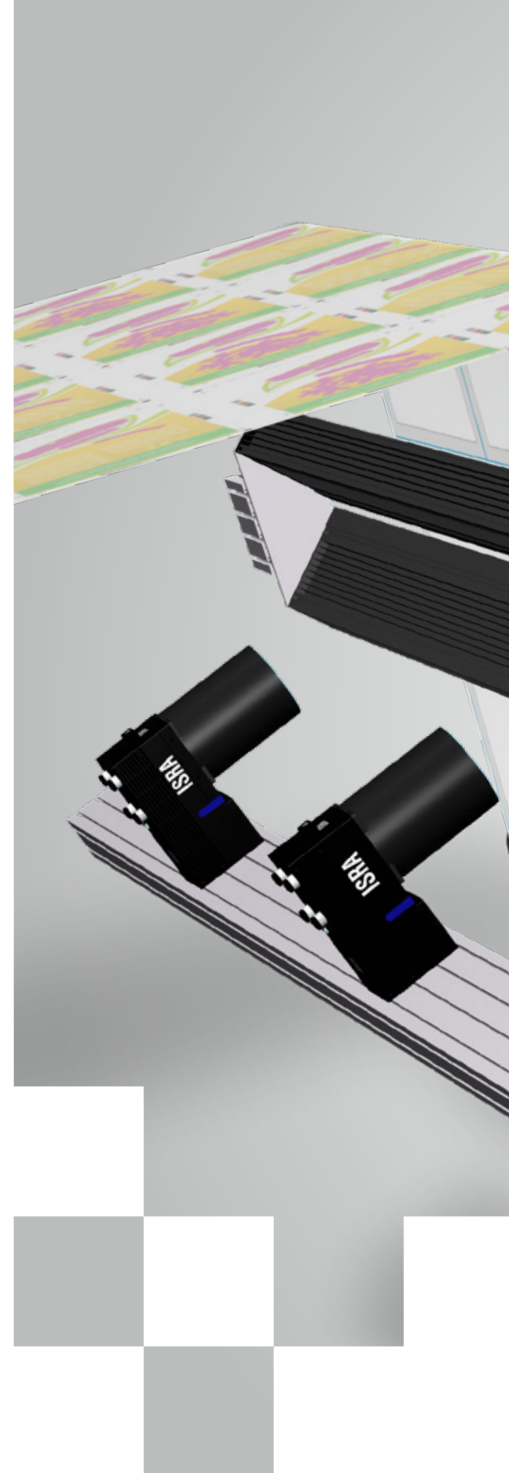
Final finishing steps for printed films include the application of protective and decorative varnishes or cold seals on the reverse side of the material. In both cases, particular attention must be paid to quality: contamination, missing varnish or missing sealing and, e.g. a mis-registration of the print image on the front and the sealing on the back of the film, destroy these process steps. Inspection of these processes is complex, however it is possible. ISRA VISION offers solutions for this through the targeted use of special lighting and camera banks in order to be able to offer optimum quality control even for these difficult applications.

Varnish

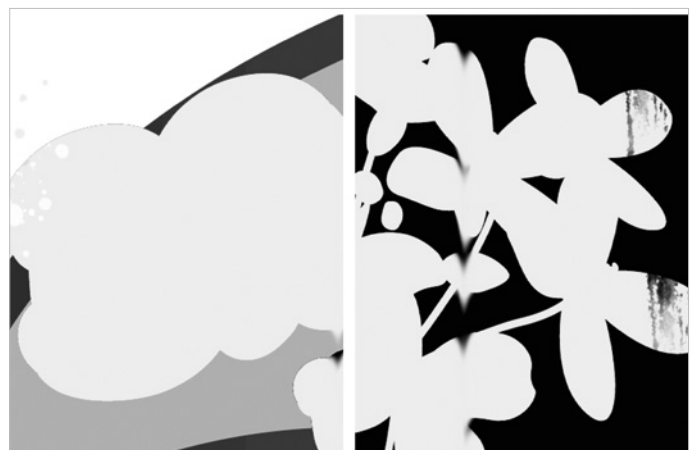
Varnishes give printed products a high-quality finish, provide special effects and protection during the printing process. Whether it is simple embossing, gloss or soft-touch effects, or incorporated silver and gold pigments: special effects must be 100% flawless to ensure the unique quality and value of the end-product. In addition, overprint varnishes required for special occasions can also be tested. PrintSTAR offers 100% inline inspection, providing a thorough and reliable inspection of coating defects on both the front and back of the web.

Cold seal

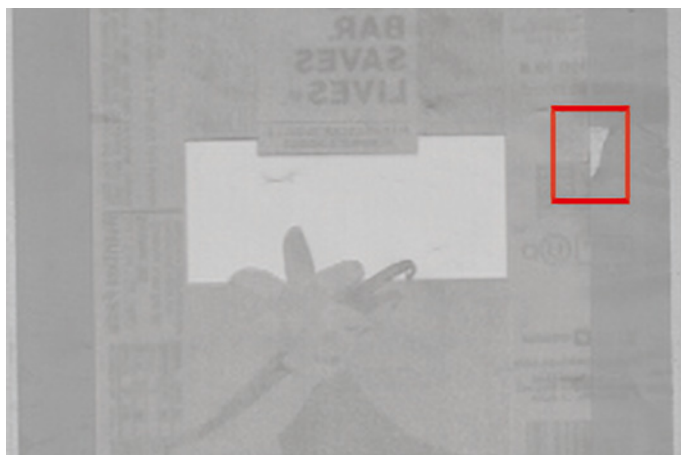
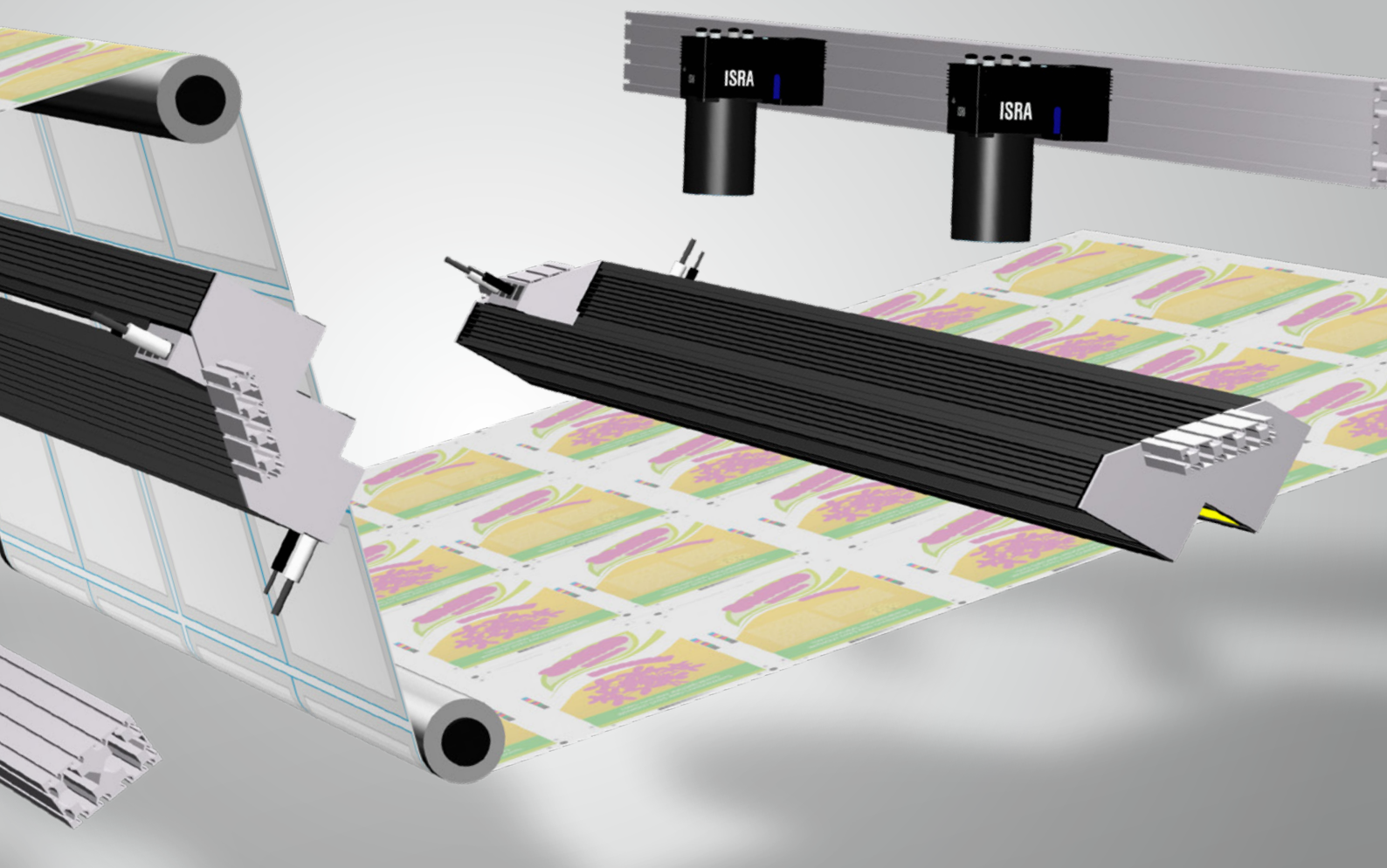
Cold-sealed packaging offers fast distribution and customizable adhesives for varied applications, enhancing process speeds and bond strengths. Yet, sealing defects like inadequate sealing or adhesive contamination can nullify these advantages. Inline inspection systems swiftly detect and rectify such flaws. Register accuracy is vital in cold sealing, addressed by our ISRA technology. PrintSTAR inspects both sides of the web simultaneously, alerting operators to discrepancies with an acoustic signal. This solution also removes the need of register marks, streamlining processes, reducing film width, and cutting material costs.



Varnish adds the final touch to a packaging



But splashes or smeared varnish ruin the shiny impression.



Contamination or missing seals jeopardize the product safety of the packaged goods.



The PrintSTAR system simultaneously checks the front and back of the substrate in a superimposed image for register errors and other defects



CONVERTING

Lamination, coating, rewinding, slitting

Further processes such as coating, laminating, wrapping or cutting printed film also require high precision in order to produce high-quality material. Of course, it would be easiest if flawless material could be processed.

Whether laminating, coating, rewinding or slitting - defects can occur in any of these steps. Thanks to our inspection systems, you are also well equipped to detect and eliminate defects in these processes before customer complaints arise. Intelligent software functions provide support during cutting processes or ensure that the doctor machine stops automatically when faulty material needs to be removed during rewinding.

Thanks to the reporting functions from previous process steps, the inspection systems can access roll logs.

In the event that both unprinted and printed material is processed on your machines, we bring all our expertise to bear. The DualSTAR system, specially developed for this case, combines surface and printed image inspection in a single system. Depending on the job, you can set the desired inspection variant and receive the desired defect detection in each case.



See
video:

PRODUCTION ANALYTICS

One solution for all data driven applications



With the EPROMI production analysis software, ISRA VISION offers a software platform that allows you to check the system status of all production lines at a glance or analyze production data in detail. With the quality management system, you can analyze historical data, monitor current inspection data in real time and identify future trends in your production process.

Dashboards allow you to compare production line and product data onsite or remotely, providing key insights for optimization. This enables you to make informed professional decisions along your value chain to increase the product quality as well as profitability. You can continuously track the progress of optimization measures and present them with visualized advanced reports.



