



Paper Quality Management System

Creating the Future driven by Industry 4.0!

ISRA
VISION

Highlight Hidden Facts!

Quality Visualization by Inspection, Monitoring and Alarming:
Highest machine uptime



Precise detection and classification of web defects, even at highest speeds

The PAPER MASTER WIS web inspection system precisely detects and classifies all types of paper surface and structure defects. The inspection data generated here enables users to receive reliable insight into product quality and allows increased process stability and efficiency.

Equipped with high-speed ISRA linescan cameras – available as space-saving **embedded (color) technology** – as well as innovative lighting technology and intelligent software, the system captures high-resolution defect images over the full web width.

Based on a preinstalled, paper grade-specific **classification** database, pre-configured settings ensure short set-up times..

Production efficiency significantly increased by web quality monitoring with root cause analysis

The IntelliCam-based Web Break Monitoring PAPER MASTER WBM supports web break detection along the entire paper production line.

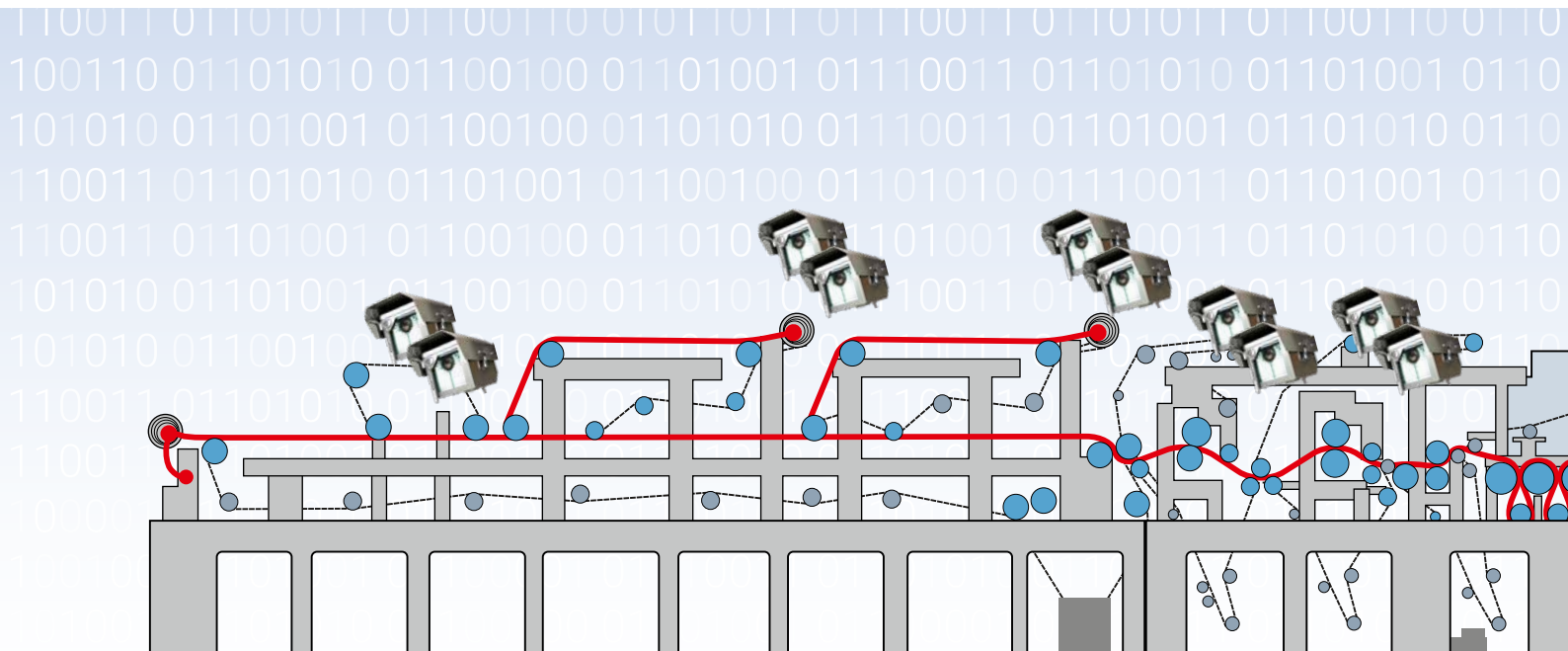
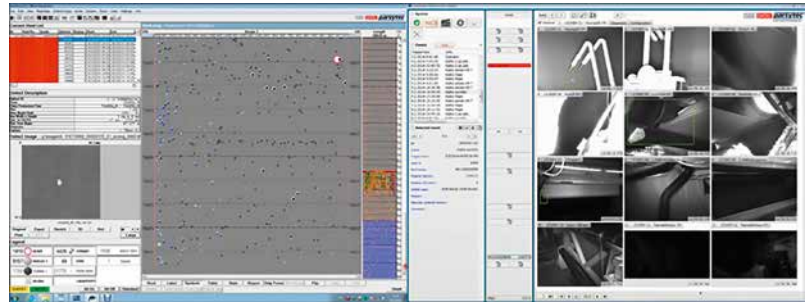
Fitted with the unique all-in-one IntelliCam solution in a compact stainless steel housing, WBM provides root cause analyses for defects and triggers an alarm for critical events.

The generated data can then be applied and corrective action immediately be taken to eliminate the source of the fault.



Combining Systems: WIS – WBM

PAPER MASTER WBM and PAPER MASTER WIS can be used as combined or as standalone systems, thus ensuring 100% inspection in cross and machine direction.



Web Quality Decision Support

Define and validate detailed, customer-specific quality corridors for each production step



Quality Evaluation & Visualization

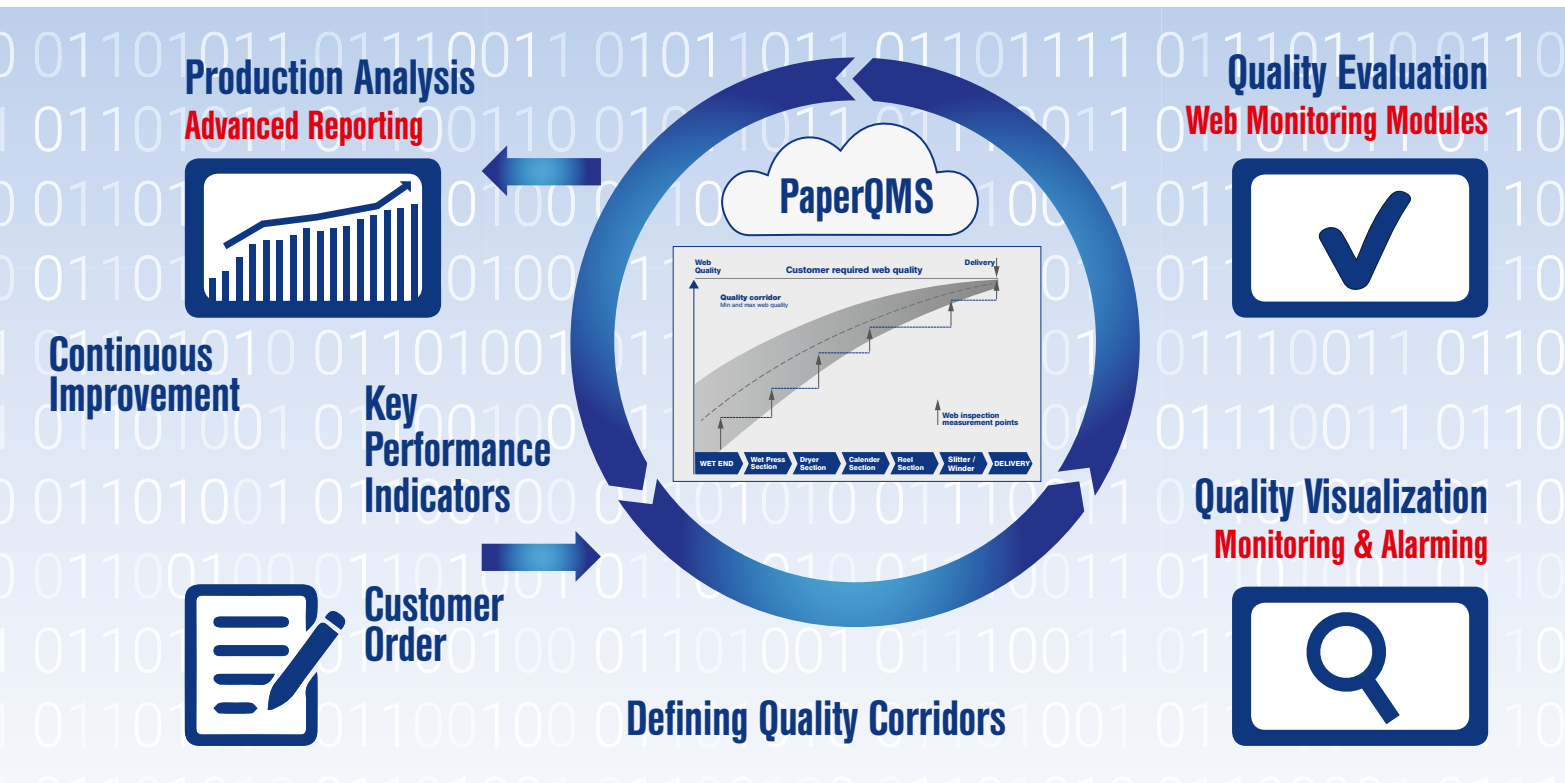
Extensive communication between all components in production

- ✓ Defining quality corridors for your specific customer
- ✓ Inspection, classification
- ✓ Monitoring & Alarming
- ✓ Web Monitoring Modules
- ✓ Visual quality data correlation

Production Analysis & Quality Validation

Save costs: React immediately to changing customer and production situations

- ✓ Quickly determine and fix process-based changes
- ✓ Synchronization of data from different sources
- ✓ Complete reel information at a glance with graphical display of process values
- ✓ Powerful web quality and yield reporting
- ✓ Improve process efficiency



Smart Quality Management: Web Inspection, Web Break Monitoring and Paper Quality Management Systems

- ✓ ISRA quality monitoring systems are used by all leading paper manufacturers in over 1,000 installations around the world.
- ✓ State-of-the-art Web Inspection System (WIS) with outstanding self-learning classification detects even the tiniest defects in the μm range at web speeds of up to 2,000 meters per minute.
- ✓ Unwind Control System (UCS) synchronizes the position of the paper machine with post-processing defect maps.
- ✓ Long-term production stability through Web Break Monitoring quality control helps reduce web breaks by at least 50%.
- ✓ Unification of WIS and WBM to achieve highest quality standards.
- ✓ PaperQMS correlates all available web quality data with any mill process data to highlight potential improvements and aid the decision to tap into previously unused potential.

Liquid Board Packaging News Print Tissue Decor Paper Coated Fine Print Thermocopy/NCR Fine Paper Brown/Grey Liner Coated White Top Liner MG Papers



Highest Process Efficiency

Save Costs by Quality Evaluation with Web Monitoring Modules



Specific Web Monitoring and Process Analyzing Tools to maximize yield:

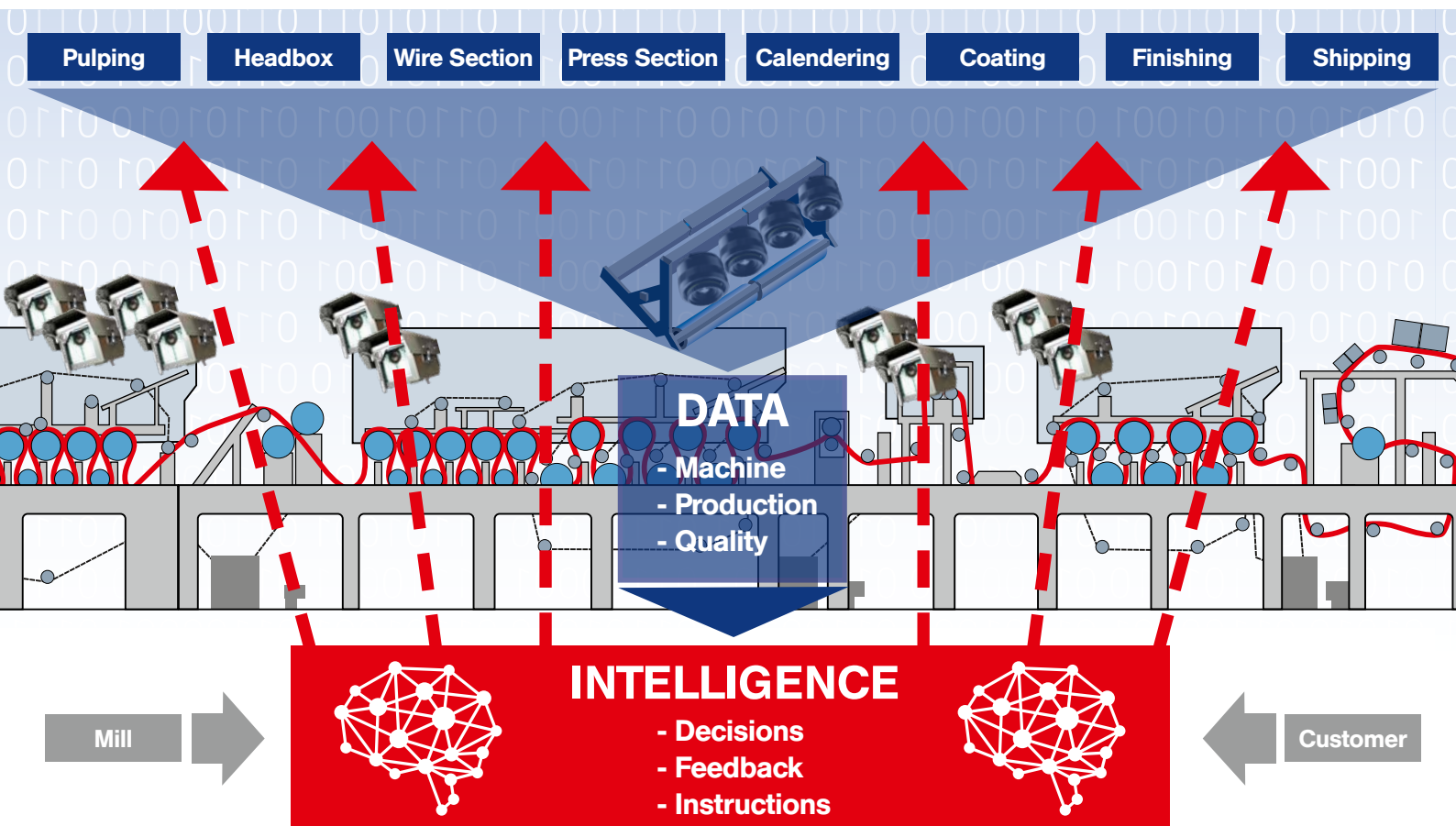
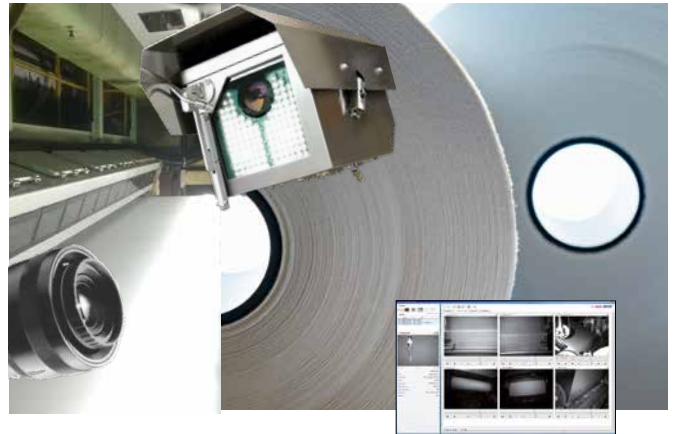
- ✓ **Slitting Optimization** generates optimized slitting plans for quality decisions **before** rolls are processed at slitter/winder
- ✓ **Defect Pattern Analysis** improves process efficiency by reacting quickly to specific defect patterns over several rolls.
- ✓ **Web Structure Analysis**: Quality validation through online feedback about the web structure.
- ✓ **Formation LiveView**: Online monitoring of current formation changes.
- ✓ Quality Report of Customer Roll **CRDR** transfers defect data in individual reel reports to reduce the amount of claims by shipping proofed quality paper rolls.
- ✓ Sheeting line's **Reject Control System RCS** increases throughput significantly by synchronizing defect tracking and reject gate control and rejecting low quality sheets.
- ✓ WIS interface **Intelligent Cleaning System ICS** improves lifetime of wires and felts by controlling the traversing cleaner devices.

Cost savings with Position Marking and Reading

The Unwind Control System UCS precisely synchronizes the defect database for each roll using a code marking applied to the web edge. Defects are clearly assigned by location on the sheet in next production stages, regardless of preceding paper losses.

UCS works in perfect harmony with the ISRA **Laser Marker**, thus significantly lowering operating costs, as well as being virtually maintenance-free.

In combination with UCS, PAPER MASTER WIS guarantees full quality tracking and documentation from wet end to door.



Smart Web Quality Data Management

Production Analysis and powerful Quality Reporting
from Wet End to Door



Correlation Analysis

Quality management systems of paper production lines now involve web quality data. With **PaperQMS**, inspection data and any production data can be combined and evaluated and correlations uncovered. The collected data reveals potential for optimization and support decision-makers in tapping previously unused potentials.

PaperQMS

Complete knowledge of detailed quality demands

- ✓ Combing data from interacting WIS and WBM, delivering web quality information in real-time, enabling root cause analyses of defects and alarming in case of deviation of quality specifications.
- ✓ Linked to further smart features, defect causes can be disabled immediately, before turning into quality- or runability-related problems
- ✓ Extensive decision support, integration of web quality and paper processing data, acceleration of quality decision of final rolls, reels or sheets.

Reliable foundation to make decisions along the entire production chain

By combining software modules for rule-based optimization and decision-making (approval, reclassification or defect tracking) with reporting tools, **PaperQMS** ensures complete web quality management .

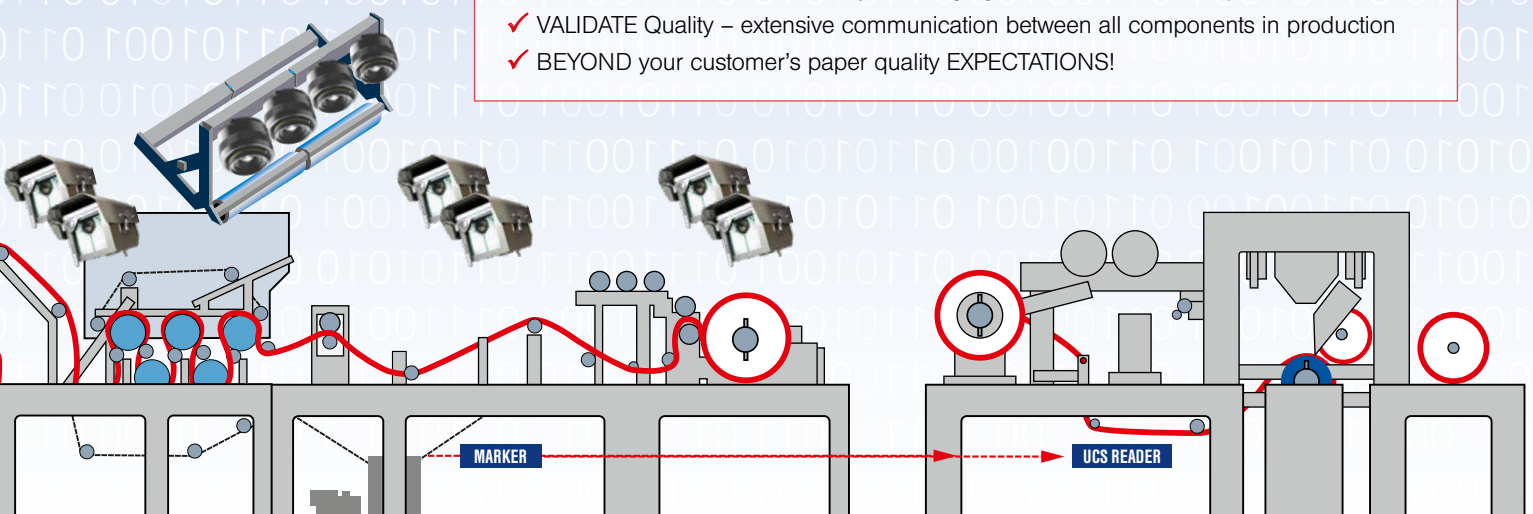
Web quality data and mill process data are combined and evaluated to reveal correlations and display a complete quality overview. The collected data quickly highlights potential improvements and helps decision-makers in production, plant, and company management tap into previously unused potential.

The reporting tools uncover trends and correlations, which then form the basis for day-to-day decisions.

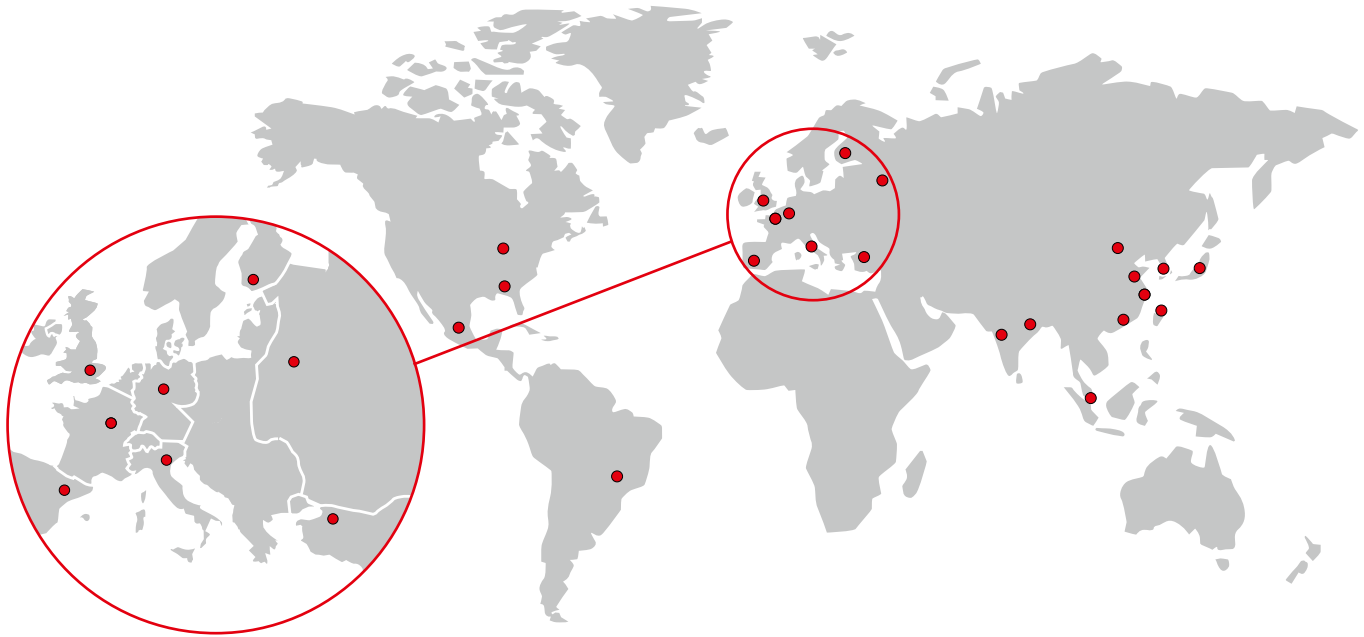


Excellent Yield – Your Key to Highest Paper Quality

- ✓ SAVE Costs – React immediately to changing customer demands & production situations
- ✓ VALIDATE Quality – extensive communication between all components in production
- ✓ BEYOND your customer's paper quality EXPECTATIONS!



Innovations for Automated Optical Inspection of Paper



**We are the innovators in optical inspection.
Best practice. Best system. Best service.**

For over three decades, ISRA VISION has become a leading manufacturer of highly accurate automated optical quality inspection systems.

More than 10,000 successful applications reference our sustainable experience in the field of machine vision products – and our ability to innovate.

Today our products are operating worldwide in such industries as glass, plastics, foils, print and automation. It is our goal to set system standards for total process control in these industries.

Customers choose ISRA for the ability to develop products consistently to their requirements. More than 900 employees at 25 locations worldwide are working to contribute to your success.

Your global partner for surface inspection.

We offer our experience and a highly qualified team of experts to design and implement solutions for advanced applications.

We assure that our mission continues beyond our shipping dock. Just challenge our Customer Support and Service Center (CSSC).

We guarantee excellence to our customers – from consulting to service, from tailored solutions to worldwide support. We can make your business more competitive.

**Challenge Us.
Inspect to Control – with ISRA VISION**

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