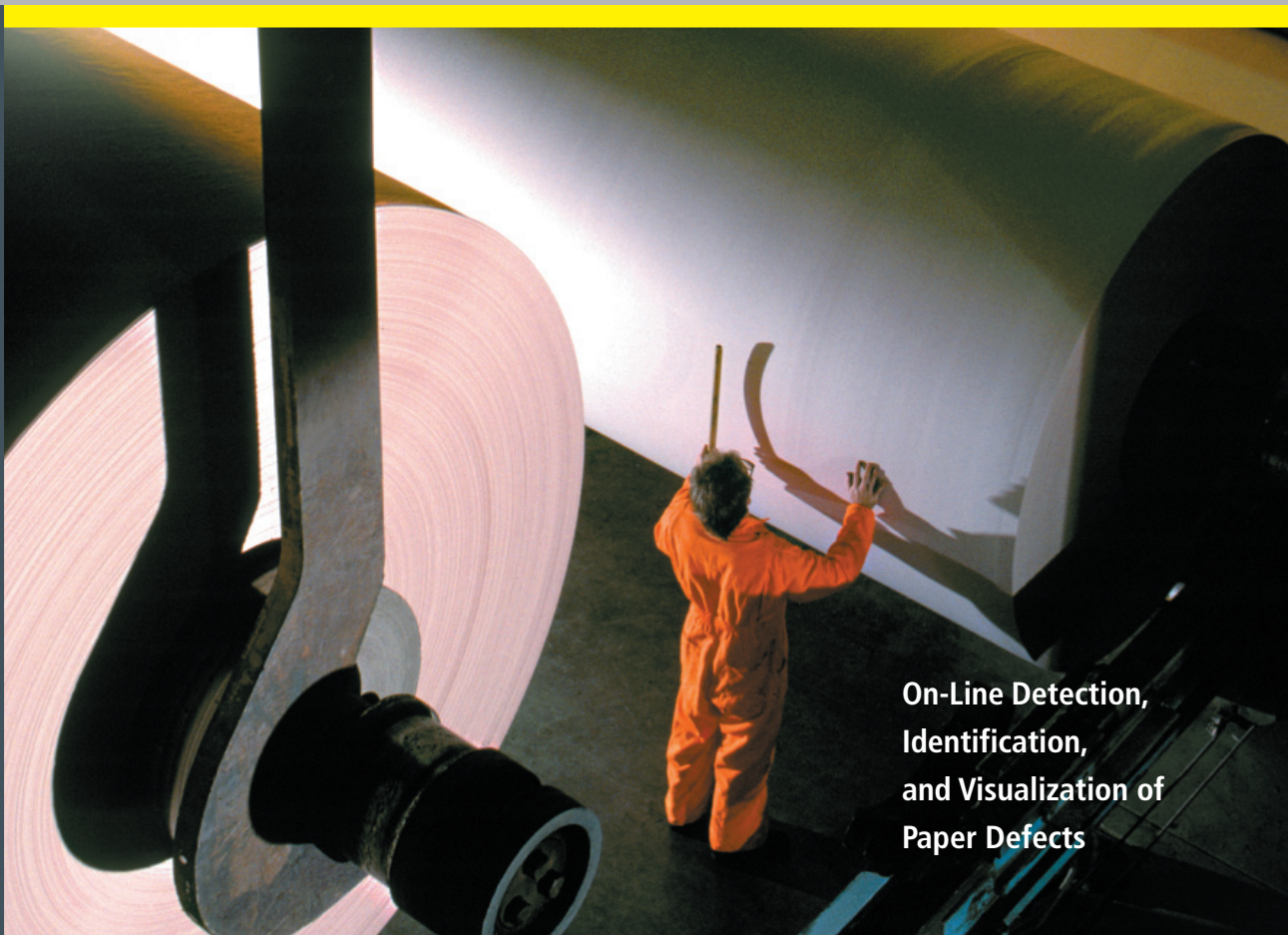


COGNEX

PAPER SURFACE INSPECTION



On-Line Detection,
Identification,
and Visualization of
Paper Defects

**SMART
VIEW[®]**
PAPER

SmartView[®] Paper

Today's global economy has affected the demand for products across all segments of the paper industry. Paper manufacturers are under pressure to run more efficient operations and produce higher value product. Although quality is essential in any economy, it has never been more vital than now.

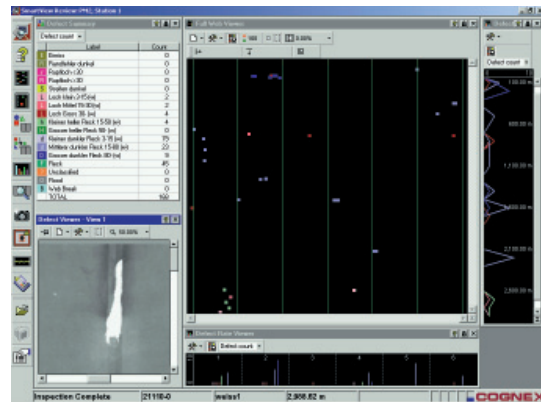
Cognex's Surface Inspection Division has over 20 years of experience providing web inspection solutions to the paper industry. We have delivered results to all major paper producers across a wide range of applications. Today more high quality paper is inspected with SmartView Web Inspection Systems than any other imaged based web inspection system.

As paper producers shift to new sources of fiber or higher levels of recycled content, new challenges are presented. SmartView's powerful classification and detection technology enables our customers to manage the entire papermaking process from wet-end to converting. SmartView can trend contamination in your stock, identify wet-end chemistry related defects, and evaluate machine fabric quality before production is compromised. Accurate defect detection allows operators to quickly react to process and raw material changes, thus reducing cull and increasing yield.



Mill Wide Users

Each user performs a different function within the plant and needs job-specific information. The user interface of the SmartView Paper inspection system is easily configured so that operators, inspectors, process engineers, and production managers have the information they need at their fingertips, when they need it, and in the format that they want.



View Real Time or Historical Defect Images and Data.

Our Value

SmartView provides more Value to papermakers than any other web inspection system.

- SmartView enables customers to certify product quality and significantly increase yield from the paper machine through finishing.
- SmartView provides a complete web inspection solution including integrated post processing tools that are designed to optimize the entire production process and maximize profitability.
- SmartView detects and classifies visual anomalies in real-time, thus enabling corrective action prior to value added processes such as coating, calendering, and converting.

Advanced Winder Advisor

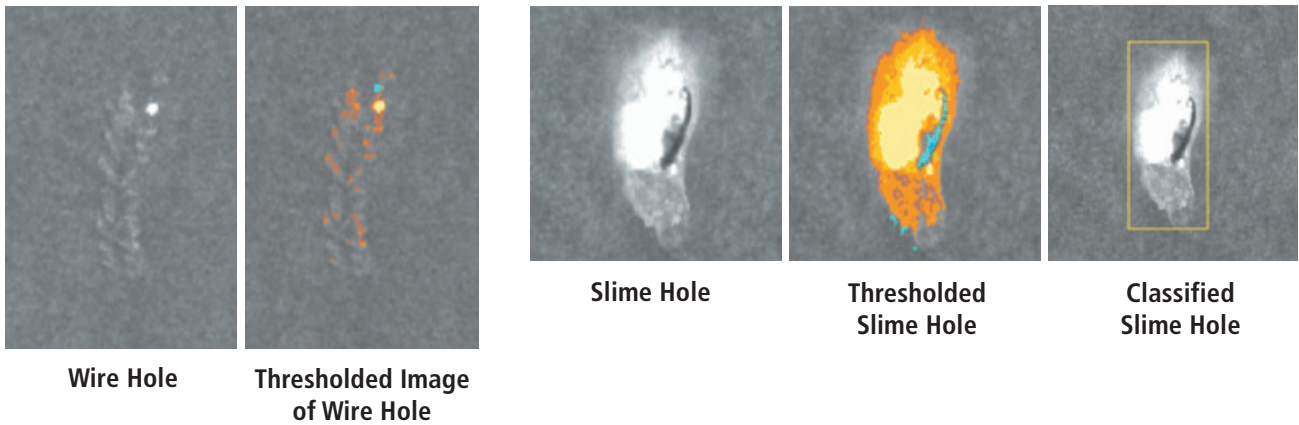
Paper web inspection systems often include an edge marker to indicate where the defects are located. Later, in post processing, the operators manually stop the re-reeler or winder at the defect and determine whether or not the defect is severe enough for corrective action.

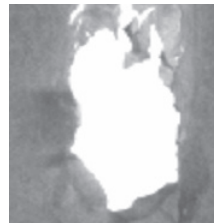
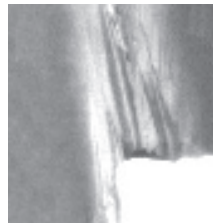
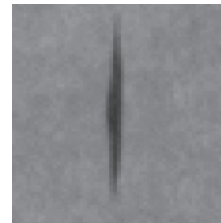
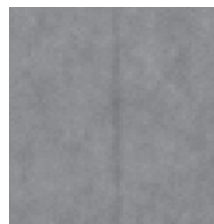
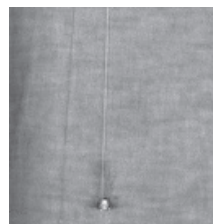
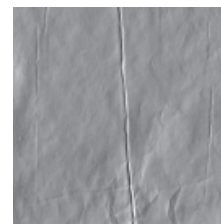
To expedite this process, Cognex developed SmartView Advanced Winder Advisor. The patented length coding/decoding technology, based on Cognex vision tools, provides a completely new level of efficiency for the winder operation. Advanced Winder Advisor enables automatic stops at exact defect location and immediate resynchronization after web break or sheet splicing. The superior defect identification and visualization capabilities of the SmartView Paper system, combined with the efficiency and effectiveness of Advanced Winder Advisor, provide economic results that cannot be achieved with conventional web inspection and winder control systems.



Our Classification

The SmartLearn® multi-step classifier is a patented classification tool set for SmartView Paper inspection systems. SmartLearn provides the flexibility to implement classification schemes tailored to your particular process and requirements. The advanced SmartLearn architecture allows the use of various learning classifiers. Combining automatic learning classification with expert knowledge, SmartLearn maximizes the potential of your inspection system for improved product quality, higher production yield, and decreased customer returns.



<p>Applications</p> <ul style="list-style-type: none"> • Newsprint • Specialty Paper • Base Stock • Coated Board • Coated Paper • Fine Paper • Extrusion Coated Paper • Liner Board • Tissue • Cigarette Paper 	<p>Typical Defects</p> <ul style="list-style-type: none"> • Holes • Dirt/Contamination • Water Drops • Oil Drops • Streaks • Scratches • Edge Cracks • Coating Skips/Voids • Wrinkles • Caliper Tear • Dark Spot • Light Spot • Edge Tear • Calender Cut • Scabs 	 <p>Slime Spot</p>  <p>Edge Tear</p>  <p>Dark Spot</p>
		 <p>Long Streak</p>  <p>Hole with Streak</p>  <p>Wrinkle</p>

Our Through-Process Visibility

The Windows®-based SmartView Paper system, connected to your mill network, provides information for mill-wide users, from the manufacturing floor to the front office.

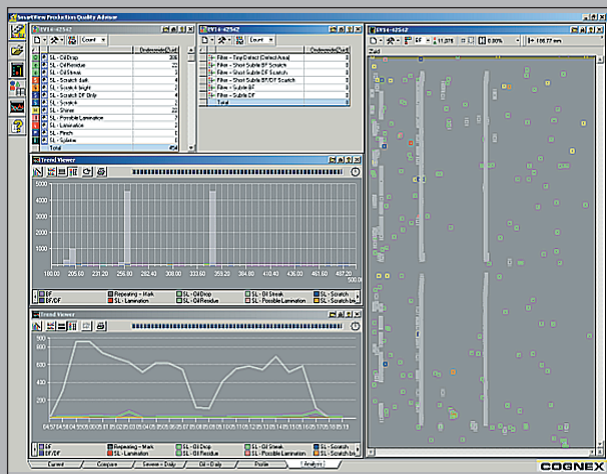
SmartView Paper uses industry standards like OPC and ODBC to ensure easy integration with other plant, business, production, and quality systems. A real-time operator interface shows current inspection results on-line all the time. The Open Network Inspection Viewer, distributed across the plant network, enables any user to view current or historical inspection results remotely from any step in production.

Production Quality Advisor

Production Quality Advisor (PQA) is a powerful suite of data analysis and display tools, built upon SQL technology. The flexible PQA interface enables operators to quickly generate useful production reports. By integrating SmartView and third party process data, PQA can deliver unsurpassed process

visibility. Standard PQA features enable our customers to create meaningful reports such as:

- ***Roll/Set Summary***
- ***Process Trending***
- ***Process Profiling***
- ***Shift/Production/Grade Reports***



Since 1981, Cognex Corporation has achieved industry leadership by focusing its expertise exclusively on vision inspection technology. The success of our surface inspection division is enhanced by Cognex's financial stability and continued commitment to Research & Development, with more than 300 vision engineers worldwide. Our network of service and support professionals has made us the world's leading supplier of machine vision systems. Our goal is to exceed our customer's expectations by providing real, lasting value through innovative surface inspection solutions. Let Cognex ensure your success and guide you through your next generation of quality improvements.



Cognex Corporation designs, develops, manufactures, and markets machine vision sensors and systems, or devices that can "see". Cognex vision sensors are used in factories around the world to automate the manufacture of a wide range of items and to assure their quality. Cognex is the world's leader in the machine vision industry, having shipped more than 350,000 machine vision systems, representing over \$2 billion in cumulative revenue, since the company's founding in 1981. In addition to its corporate headquarters in Natick, Massachusetts, Cognex also has regional offices and distributors located throughout North America, Japan, Europe, Asia, and Latin America. Visit Cognex on-line at <http://www.cognex.com/>.

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