

Shoalhaven Paper Improves Production and Quality with Honeywell's Web Inspection System



“Honeywell’s Web Inspection System (WIS) has provided our operators with the information they need to detect and action an issue with the machine as it is happening. This has produced immediate savings through reduced broke and faster grade change optimisation. With the aid of the WIS, we have been able to identify some projects that will make our quality even better.”

Paul Whisson, Lead Electrical Engineer, Shoalhaven Paper

Benefits

The Shoalhaven paper mill in Australia recognised the need to improve the quality of its paper, including watermarked papers. Watermarked paper presents a unique challenge in that a conventional defect detection system will see the watermark as a defect rather than a feature that needs to be classified separately.

Turning to a leader in paper and printing solutions, Shoalhaven selected Honeywell’s Web Inspection System (WIS) for online detection, identification and visualization of all paper defects the mill may have experienced.

With Honeywell’s proven WIS, Shoalhaven was able to improve paper quality and deliver more consistent specialty paper to its customers. After a weeklong commissioning and calibration period the system was able to:

- Count watermarks on a sheet
- Detect watermark errors within acceptable grayscale levels
- Detect paper defects
- Classify defects and watermarks into user defined classes
- Display defective watermarks/defects on a system screen
- Produce reports of defects/watermarks defects



Shoalhaven Paper improved paper quality with Honeywell WIS.

Background

The Shoalhaven paper mill is located in Bomaderry, 160 kilometers south of Sydney. The Shoalhaven mill is Australia’s largest specialty paper producer. It has long been Australia’s leading manufacturer of more than 700 high-quality specialty papers.

Shoalhaven paper mill is a division of Paperlinx, a leading global paper marketer and an Australian manufacturer of fine communication papers and high-performance packaging papers.

Challenge

As Australia's largest specialty paper producer, the Shoalhaven mill couldn't afford any defects or inconsistencies in paper quality. With additional pressure to run more efficiently and meet increasing customer expectations in order to stay competitive, Shoalhaven knew it must make a change in the identification of defects to enable quick rectification and ensure a more consistent, higher quality product to its customers.

Shoalhaven manufactures a wide range of specialized papers including coloured copy, boards, high finish, text and cover grades, security papers and watermarked paper.

In watermarking the wet paper comes into contact with the pattern on the dandy roll, and the paper becomes a little thinner and more translucent where fibers have been dispersed by the raised pattern. Although the sheet is wet at this point in the process, it is strongly formed by this time and fibers remain permanently displaced. The dandy roll is used to compact the sheet and help provide a good formation, background and to add the watermark.

The challenge was being able to detect defects in such a wide variety of products with one system. In the watermark and security papers not only must the conventional defects such as holes, dirt, creases and light spots be able to be detected but the additional special features of the paper had to be detected along with their own unique defects.

Solution

After a review of the issue at hand, Shoalhaven purchased Honeywell's WIS to aid in the reduction of defects and identification of possible sources.

More Information

For more information on Honeywell's Web Inspection Solutions, visit www.honeywell.com/ps or contact your Honeywell account manager.

Automation & Control Solutions

Process Solutions

Honeywell

2500 W. Union Hills Dr.

Phoenix, AZ 85027

Tel: +1-602-313-6665 or 877-466-3993

www.honeywell.com/ps

Honeywell's WIS is a web inspection system for online detection, identification and visualization of paper defects. By incorporating leading-edge camera, detection, classification and computer technologies, Honeywell provides unmatched performance and results for the paper manufacturer.

In addition to the system components, the Shoalhaven solution includes a customized, real-time user interface showing current inspection results online. The system is OPC and ODBC compliant to ensure easy integration with future plant expansions.

"Prior to the installation of Honeywell's WIS we relied on top reel samples to gauge the quality of the entire reel but with our new solution we have provided our operators with the information they need and settling the machine on a watermark grade has never been easier," said Whisson. "Our operators can adjust machine parameters, such as the height of the dandy, wetline position or amount of vacuum around the dandy and immediately see a picture of the watermark on the WIS and compare."

Due to space restrictions of the paper machines at the Shoalhaven mill, the WIS component mounts had to be customized to for this specific application. The Shoalhaven and Honeywell teams worked together in order to make this a reality.

Paper manufacturers like Shoalhaven are under increasing pressure to run more efficiently but as lines run faster the risk for defects increases. Honeywell has been successfully inspecting various grades of paper for two decades, inspecting more than 3 billion square meters of paper every day.

Concluded Whisson, "Honeywell's WIS trends the number of detected watermarks throughout the reel, which gives us a good indication if there has been a change on the machine. We utilize the repeating defect analysis feature of the WIS to make sure we are making paper to the correct length. Thanks to Honeywell we have been able to identify some projects that will make our quality even better."