

## Ensuring paper quality

Reducing waste and paper  
breaks in corrugated  
cardboard production



Based in Kita-ku, Osaka, Japan, Rengo Co., Ltd. is a manufacturer of paper products, including paperboard and corrugated board. Rengo is focused on the general packaging industry, providing solutions to support the flow of goods in a range of industries. Rengo currently operates four paper mills in Japan, including a corrugated board base paper production facility at the Kanazu Plant in Awara City, Fukui Prefecture.

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### CHALLENGE – DETERMINING THE CAUSE OF PAPER BREAKS

Rengo upgraded its production facility at the Kanazu Plant to improve the quality of papermaking in 2017. The raw material process – the selection process of used paper pulp – which greatly affects the quality of the base paper was enhanced. In addition, a new, state-of-the-art paper machine, providing energy-saving and resource-saving benefits, was installed.

A SmartView® system was added at the same time as this upgrade, to inspect the paper for defects.

This was supported by a single-camera Advanced Winder Advisor (AWA) tool, which enables automatic stops at the exact location of a detected defect. Designed specifically for paper inspection systems, it allows immediate resynchronization after a web break or sheet splicing.

With the enhanced stopping accuracy of the AWA, winder operations are more efficient, and defects are dealt with more quickly, so production speed and overall product yield are increased.

However, after three years of successful use, the company wanted to reduce the number of paper breaks it was experiencing. The cause of the defects leading to these breaks was unknown.

Rengo wanted to be able to detect paper breaks immediately, and also to identify the root cause that led to the break. This required a new tool capable of detecting the root cause.

### SOLUTION – AN INTEGRATED SYSTEM FOR DEFECT LOCATION

AMETEK Surface Vision installed a SmartAdvisor® system with 12 camera units alongside its existing SmartView system.

The AMETEK Surface Vision experts also applied the SmartSync tool, which integrates the multi-camera video

monitoring power of SmartAdvisor with the flexibility and proven quality of SmartView surface inspection.

This meant that SmartView's advanced classification could be configured to trigger an event capture across multiple SmartAdvisor data points on

the production line, allowing rapid analysis to determine the root cause of defects and process upsets.

In order to narrow down the origin of the defects, the system was installed between Wire section, Press section, and Dryer section.



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### OUTCOME – RAPID RESULTS THAT REDUCE WASTE

The system allowed cause identification to begin immediately after the defect occurred, providing rapid results. The amount of waste paper generated by frequent defects has decreased, while paper breaks are down 17% year-on-year. Rengo expects a reasonably fast return on its investment in this new system.

Takefumi Nakanishi, Deputy General Manager at Rengo said: “Before we installed SmartSync, it took me a while to find the information I wanted. Now we have succeeded in narrowing down the paper break information and defect information.”

“Our next step will be to install more cameras and require more accurate system performance, which we are able to do thanks to the modular nature of the AMETEK Surface Vision solution.”

### APPLICATIONS

**SmartView® and SmartAdvisor® systems can be applied to the full spectrum of paper, packaging and tissue applications, including:**

- Fine paper
- Newsprint
- Supercalender Paper
- On-line coated paper
- On-line coated board
- Off-line coated paper

- Off-line coated board
- Liner
- Corrugated medium
- Liquid packaging
- Tissue
- Décor paper

- Label
- Release paper
- Pulp lines
- Specialty
- Food grades
- and more...



### ABOUT AMETEK SURFACE VISION

AMETEK Surface Vision is a world leader in automated online surface inspection solutions with a broad product portfolio optimized for web and surface inspection and monitoring and process surveillance applications.

Its product portfolio includes two distinct product lines: SmartView® systems and SmartAdvisor® systems. Each product line uniquely enables customers to inspect the surfaces of materials processed in a continuous fashion across the metals, paper, plastics, nonwovens and glass industries. Learn more by visiting [ameteksurfacevision.com](http://ameteksurfacevision.com).

AMETEK Surface Vision is a unit of AMETEK Process and Analytical Instruments, a division of AMETEK, Inc., a global manufacturer of electronic instruments and electromechanical devices with annual sales of approximately \$5 billion.

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