

Clearly a good move for print

News International has made use of vision technology at its Wapping print plant, to provide accurate and fast inspection of printing plate alignment

The need to maintain high standards of print quality, while reducing production time, led News International to install a vision system in its Wapping printing plant in London's Docklands. It is here that *The Sun*, *The Times*, *The Sunday Times*, and the *News of the World*, as well as all related supplements, are produced.

The production of these publications is a complex task, and print quality is very important. Matsushita Electric Works UK (MEW UK) has helped News International to maintain and enhance the clarity/sharpness of its print, with the introduction of its P400 vision system to the process.

The production of a newspaper involves a number of different processes and stages. At News International, editors create pages electronically. These are made into bit-map images and transferred to a laser-imaging machine, where the final page print plate is produced. Print plates are then sent to the web offset presses, where the page layout is transferred from plate to blanket, and from blanket to paper.

Each page is made up of four print plate sheets (cyan, magenta, yellow and black) which are laid on top of each

other to produce the final image. The accuracy of the plate overlay has a direct effect on a newspaper's print quality/clarity. If plate overlay is even slightly out, the print may appear unclear or blurred. This is undesirable, because blurred print adversely affects customer satisfaction and ultimately the newspaper's circulation. Advertisers expect their adverts to be as sharp as possible and are not willing to accept poor quality images. For these reasons it is necessary to ensure that plates are overlaid precisely.

Previously, News International used the 'glass rule' system whereby an operator manually inspects each specially designed test plate using a steel ruler and magnifying glass. This system, which is still used by the majority of newspaper printers, was time-consuming and laborious, taking around 30 minutes per test plate.

Speeding up the process

This meant that News International could only carry out infrequent plate alignment checks, often only when it was suspected that something had already gone wrong within the production process. Inspection by the human eye is never 100% reliable, and does not provide engineers with information that could enable them to identify problems within the production process.

Technical engineer, Peter Stephens, was tasked with finding a solution that would speed up inspection times and improve the consistency of plate position. MEW UK was able to provide the answer in the form of the P400 vision system and a custom-made jig.

The P400 is a PC-based vision system that enables precise, high-speed multi-camera inspection. Equipped with an Intel Pentium processor, it has been designed for 100% inspection of prod-



Print plate alignment checks at News International's Wapping plant are undertaken using Matsushita's P400 vision system

ucts on a line without affecting the efficiency of the manufacturing process. News International was able to utilise the P400's intuitive user environment, which offers a range of standard tools, to perform measurement checks on the test plates. By simply clicking on an icon and selecting the shape, the area of the plate to be inspected is highlighted.

Results from these checks are shown on a screen, and can be transferred to an advanced spreadsheet. With this spreadsheet, length, width, offset, skew, and rotation, could be calculated. The results are then displayed on a user-interface giving a green or red indication for pass or fail conditions, and also on the screen, giving the operator the ability to correct any discrepancies in the manufacture of the plate.

High accuracy levels

A single test plate alignment inspection now takes around one minute – a saving of 29 minutes in operator time. Plate alignment checks on all of News International's print lines can now be performed within an hour. The system can achieve accuracy levels to within 0.06mm, making frequent daily checks more practical, and improving the consistency of plate position.

Stephens is very happy with the system: "The P400 vision system saves us valuable time and helps us maintain the highest standards".

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