

## Automatically detecting printing plates

**P**ressures in the world of newspaper printing mean everything needs to be right for the printing run. Mistakes such as mounting the wrong plate cause the pages to be in the wrong sequence, wasting paper and meaning missed deadlines. The plates, however, can be damaged when removed – and with newspapers, their size and variety may mean several thousand plate changes every day, increasing the risk. But often the printer doesn't realise plates are incorrectly mounted until the first copies are printed.

As a solution, printing machine manufacturer Koenig & Bauer (KBA) worked with Leuze electronic to develop an automatic plate detection system which inspects the plates for correct mounting. This automation module, called Plate-Ident, controls the workflow within the machine and ensures that each plate is correctly assigned to the correct print position.

The system uses a camera to inspect data matrix or 2D codes, which are unique to each printing plate, allowing the plates to be identified. According to Andreas Birkenfeld, division director of System Technology Construction at KBA, the 2D codes are produced along the edge of the plate at the same time and using the same photo-etch manufacturing process used to produce the printing plate. This produces a matrix which has only a low contrast difference between dark green on light green, prompting the selection of data matrix coding.

The data matrix's two dimensional arrangement of horizontal and vertical fields provides a high density of information in a small space. While this placed high demands on the system, it can be read in any position by the reading device. The high information storage capacity also allows the data to be located at multiple positions within the code matrix, improving reading reliability thanks to an Error Checking and Correcting methodology (ECC). This provides reliable code reading even if as much as 25% of the information fields are illegible. The Plate-Ident system can simultaneously read four codes in their various positions.

The plates are inspected at the infeed shafts of the automatic KBA PlateTronic plate replacement system using an intelligent camera with image processing from Leuze electronic. The hardware and software were developed specifically for this application.



Birkenfeld commented: "With a small read distance of just a few centimetres and special integrated lighting designed to meet the requirements of the printing plates, we achieved exceptional results."

To meet customer requirements, the system provides reliable error detection, which is immediately displayed in the control panel on the control desk of the printing system via Ethernet networking. Should a printing plate be incorrectly mounted, it can be corrected by the operator even before the plates are secured in the machine.

**Leuze electronic T: 01480 408 500 [www.leuze.co.uk](http://www.leuze.co.uk) Enter 203**