



## PRECISION DESK TOP PUBLISHING

***Latest IMechE West Cumbria visit Reveals Computers On Top***



The power of the computer in manufacturing industry was graphically demonstrated during the recent visit by IMechE West Cumbria to the Cumbrian Newspaper Group printing facilities in Carlisle.

Enthusiastically led by David McNeil & Eve Johnstone from the Promotions Department, the tour saw how compact and efficient transmission & calculation by computer has made the newspaper printing business.

Computers control the conversion of the written articles and photographs into the page layout, which then directly drives a 'printer' that produces each of the printing plates. As Carlisle offers full colour printing up to broadsheet size, 4 plates are used to build up the colours printed onto the paper (Cyan, Yellow, Magenta & Black). They represented almost the only manual intervention in an otherwise fully computerised process. The other significant element seen was the way in which the reels of paper are joined to ensure continuous feed through the high-speed printing process – a fascinating and unlikely sequence involving spinning the new reel up to match the speed of the soon-to-be empty roll and then letting some super sellotape do the rest...

The state-of-the-art German printing press can produce some 30,000 papers per HOUR. To produce the wide range of titles published by the CN Group, including the Whitehaven News, Times & Star and the Gazette, takes only a few hours, and the surplus press capacity is sold to a wide range of other titles such as the Scottish Sun, numerous regional papers and even foreign language publications.

The aluminium printing plates are formed with precision alignment keys to enable highly accurate build up of each of the colours, and the overall quality of the full colour images produced (that is now taken as granted in the modern newspaper) represents a minor miracle of process engineering. Each paper stream is taken vertically past the printing drums on each printing press to become printed on both sides. The number of presses operating at any one time is determined by the size of the publication. We saw seven paper streams being drawn into the guillotine & folding arrangements (sadly not available for detailed inspection) to emerge (somehow) as a 112 page newspaper. The printers job is to ensure that the alignments and ink feeds continue to produce a first class product, and because of the oiliness of the printing inks that they inevitably come into contact with, they have their own table in the canteen to avoid spreading the ink further than necessary. Approximately 200 miles of paper are used to produce

38,000 copies of a 56 page paper such as the Cumberland News. Papers are now regularly 'editionised', to keep the bulk of the paper common, but to include certain pages to cover local events.

After printing, the paper is then counted and bundled to suit the location of the customer, often just a paper shop. Any inserts can either be put in using an automatic machine or a human 'stuffer'. The days of "hold the front page" are almost over, however, as printing deadlines for each of the titles means that any changes once in print will have significant repercussions – the paper must be 'right' as it goes to press!

The editorial offices were well laid out, every computer screen carrying a large fluorescent number to indicate the telephone extension number, and the hubbub as stories land, are written, edited and laid out can only be imagined. Page layout is done using the industry standard application of Quark Express.

We were fortunate to see a late night photographer & picture editor, Stewart Blair, downloading some pictures taken that evening of Terry Waite on a visit to Carlisle. Again, the computer is used as the hub, but Stewart was at pains to point out that none of the photos taken are 'doctored' in any way - only colour balance may be corrected to achieve the most realistic end result. Stewart felt it was essential for readers to believe in the authenticity of the photographs used, and not to suspect any Photoshop trickery.

The corporate corridors proudly displayed an impressive collection of artwork as well as a reproduction of the first ever Carlisle newspaper, The Patriot, dated June 3<sup>rd</sup> 1815 (vital information for all pub quiz addicts and Ron Graham's benefit..). The original is safely locked away.

The CN Group has been built up over 4 generations of the same family since 1865, and is now headed by Robin Burgess. Continued investment in cutting edge technology means that they can offer and flourish in a highly competitive market and Cumbria should be proud of such commitment to excellence.

Our thanks are due to David & Eve who patiently fielded a barrage of questions, and who usually managed to find someone to answer them. Another excellent visit for IMechE West Cumbria.

#### *Notes to Editors*

- The Institution of Mechanical Engineers ([www.imeche.org.uk](http://www.imeche.org.uk)) is the leading global voice for the profession and has over 75,000 members in 120 nations. It represents mechanical engineers involved in a diversity of fields such as the automotive, rail, aerospace, medical, power and construction industries, to name a few.
- For further information on this release, interviews or comments, please contact

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*David McNeil & Eve Johnstone (CN Promotions Dept) display the surprising range of publications produced at the Carlisle printing press*