

SPECIAL FEATURE: News International update

All steam ahead

CARYL HOLLAND reports on the latest developments with News International's £600 million investment programme

IT IS now 12 months since PJ announced that News International (NI) was to invest £600 million over the following four years in its printing facilities. First, the presses were chosen, the order going to MAN Roland for its Colorman XXL triple-wide 24 page presses which will be capable of printing 120 pages of either tabloid or broadsheet in full colour at 86,000 copies an hour.

Then it was the turn of the mailroom. This time, it was Ferag which won the order for conveyors, stackers and strappers: due to the pagination and section flexibility of the presses, inserting will not be used.

Now, NI has selected Agfa for its computer-to-plate (ctp) operation. MAN Roland has won the contract to supply the reel handling and warehousing equipment; Rotoclean for blanket washing units; Tolerans for 57 on-press stitchers, that is three per press; and Dan Palletiser for 20 fully automated palletising systems for the mailroom.

So far as ctp is concerned, the Agfa order includes 20 Polaris XVS violet platesetters, each one of which is capable of outputting 220 plates an hour. There will be 12 platesetters installed at Broxbourne, five at Knowsley and three at the Eurocentral plant in Scotland.

The agreement also includes a complete digital workflow based on Agfa's Arkitex software and the supply of plates with full facilities management. In other words, the whole process will be fully automated, with Agfa being responsible for the operation from receipt of files on site to the loading of the plates into the sortation system including on-site maintenance, as well as providing a full service for the equipment.

As is explained by Brian McGee, NI's group director of manufacturing: "What we will have is not dissimilar to outsourcing repro which companies have done for a number of

years. It is a further extension of this type of arrangement.

"That was our aim and we selected Agfa because they gave us the best package overall".

It was for a similar 'overall package' principle that NI decided to go for MAN Roland as the main supplier of the reel handling and warehousing equipment: although MAN Roland will be installing its Aurosys reel handling system, it will be outsourcing the other equipment as is explained by Wilfried Rill, the director in charge of automatic roll and material handling systems at MAN Roland: "We will supply the complete system but we will be using specialised partners for a number of the functions such as truck unloading, the high bay storage and the unwrapping of the reels. We will also provide the software which will integrate all these stand-alone operations into one logistic system, as well as, of course, integrate the operation with the Pecom press control system".

McGee also points out the integration benefits.

"Not only is it technically a good solution but it also makes immense sense since it has to be closely integrated with the presses. It was the cleanest solution by far".

The operation will be essentially 'lights out', and will be the most automated and largest system ever supplied by MAN Roland. For instance, it is reckoned that with the 12 Colorman 8-86 presses installed at Broxbourne, five at Knowsley and two at Eurocentral in Scotland, the cumulative reel usage capability will be in excess of 6,000 a week, that is approximately 11,000 tonnes of newsprint.

Interestingly, the newsprint reels will carry both an Ifra barcode and an rfid tag embedded within the core for identification and stock control.

"Our intention is to achieve 100 per cent rfid tagging on reusable cores since our Glasgow

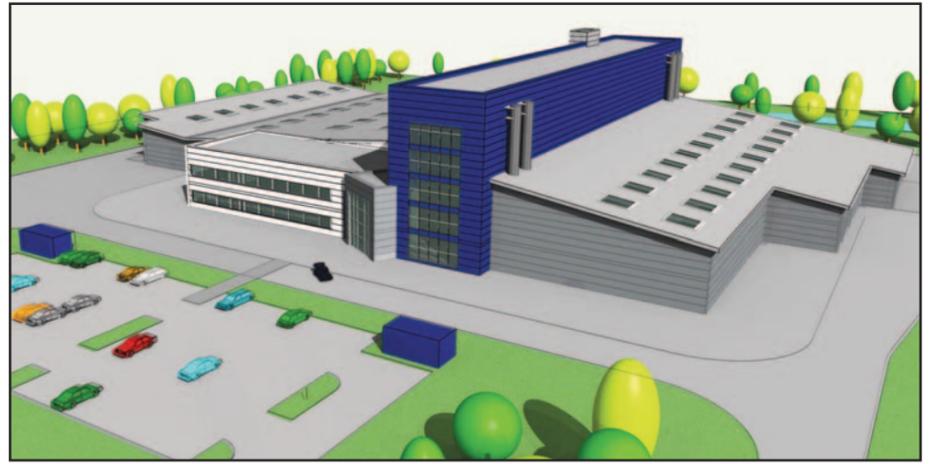
plant has been piloting a fully working system over the last 18 months," says McGee. "However, we recognise that rfid tagging involves the whole industry so there could be a timing issue. That is why we have decided also to have a bar coding option".

He added: "The full potential of the automated reel handling equipment at all sites will only be realised by long partnerships with those paper suppliers who are really committed to integrated manufacturing. The principle is well established in other industries and we have been most encouraged by the initial response from many of the more progressive mills".

Information retrieved from the tag/bar codes will be checked against an electronic delivery note, prior to the consignment being unloaded. The reels, which will be transported and stored on their 'belly', will be unloaded from the delivery vehicles using specially designed unloading docks capable of handling reel widths ranging from 2,211 mm down to 737 mm. Since newsprint deliveries will be as frequent as every 15 minutes, the automated reel unloading docks will remove the entire load of reels in one operation, thus speeding up vehicle turnaround.

From the unloading dock, reels will be transferred into bulk storage. In the case of Eurocentral and Knowsley, this will be by clamp truck but, in the case of Broxbourne, a system of conveyors will be used to transport the reels to a fully automated high-bay storage system. This will have 3,282 positions capable of holding up to 3,716 reels of various widths. This, plus the 864 reels in intermediate storage, will be sufficient to support the Broxbourne production for three days.

Four unmanned cranes will pick and deposit incoming reels at a rate of 200 an hour into the high bay store which will also be able to receive part-used



● Above from top: Eurocentral in Scotland, building work has already commenced; A MAN Roland Aurosys reelroom

reels left over from completed production runs.

When required, the reel will be transferred from bulk storage to the preparation station where the outer wrapping will be removed using a system developed by U-Veritas in Japan. The winding sense will be detected and a splice pattern applied automatically by MAN Roland's AuroPrep system. The prepared reel will then be conveyed to an intermediate storage area and held there until required for production.

AuroLog, part of the Aurosys management system, will monitor the age of the splice tape of the prepared reels. If it expires, then the reel will be removed automatically and a new splice tape applied.

When one of the presses requires a prepared reel, the AuroPort transport device will transfer it to the AuroLoad system which will automatically load the reel into a reel-stand ready for the automatic pasting cycle to take over. AuroLoad will also remove the core of the used reel, along with the residual paper on the core, and deposit it into a bin.

The Aurosys control system will assign the AuroPorts to pick up these bins systematically, transporting them to the waste marshalling area. Here, they will be deposited into suitable containers ready for waste processing.

In addition, AuroLog will collect data from the RFID tag in the reel core together with information from the reel-stand and record how much 'white on core' is associated with each core recovered. In this way, waste can be audited and controlled. AuroLog will also integrate with NI's accounting, inventory and maintenance systems.

On the presses themselves, six Rotoclean blanket and satel-

lite washing units will be fitted to every printing tower.

"Our press project team spent quite a considerable amount of time looking at the various systems," reports McGee. "They felt that in terms of efficiency for triple width presses this was the best system since it uses page-wide brushes which transverse across the web. The system also vacuums the lint, solvent and water away resulting in no residue, especially within the blanket gaps".

Incidentally, NI has not only decided to install full solvent recovery for the blanket and roller washing system, it is also investing in full waste water treatment along with reverse osmosis.

The latest order for the mailroom is for the Mark IX palletising system from Dan Palletiser. This will not only palletise but also wrap and label bundles of newspapers varying in height from 50 mm to 450 mm at a rate of 70 bundles a minute.

According to Ian Dickson, NI's group chief engineer: "Dan Palletiser offered one of the simplest solutions. It is also well engineered and the price was right".

The newspaper bundles will be transferred from the mailroom conveyor system to the palletisers via low friction spiral conveyors. They will then be diverted into three lanes.

To ensure a stable palletised load, pneumatically operated bundle turners will rotate the bundles through 90 degrees into lanes one or three as required to form the layer pattern, while bundles in lane two will remain short edge leading. The pallet pattern will be made up of two rows of three bundles and one row of four bundles.

When the pallet has received the desired number of layers, it

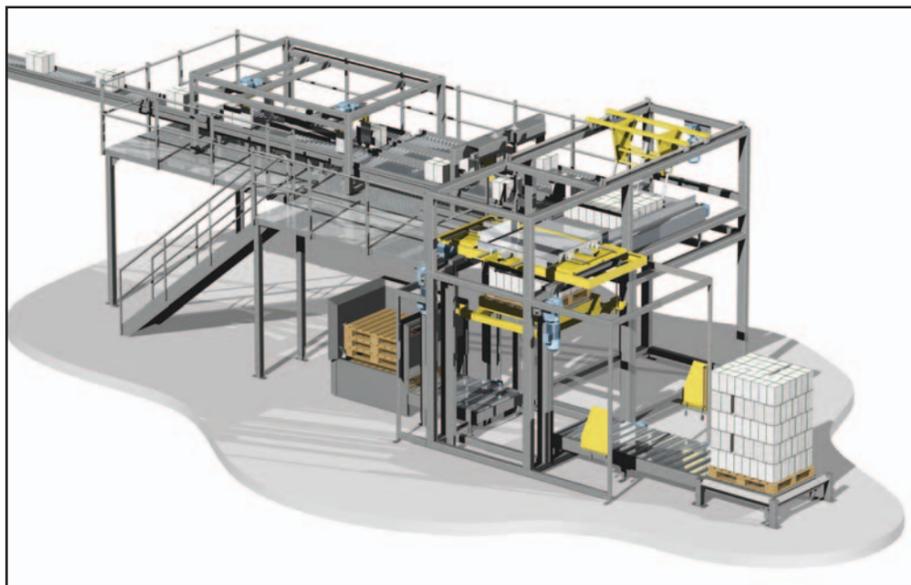
will be transferred from the pallet elevator by a chain conveyor to a ring type stretch wrapper where it will be held whilst stretch wrap film is wound around the bundles. The wrapped pallet will then be automatically labelled with product, load and delivery details prior to being presented to one of two pick-up positions where it will be end-loaded on to the truck.

The palletisers will be required to have a minimum mechanical efficiency of 99.5 per cent. However, should a failure occur, bundles can be diverted to an alternative palletiser.

The system will also be designed to hold sufficient empty pallets to minimise the need to recharge the pallet dispenser during the production window. For example, the empty pallet accumulation conveyors for the Broxbourne facility will be able to hold 114 empty pallets stacked 12 high. This will make a total of 1,512 pallets available if the stack in each of the pallet dispensers is included.

The pallet stacks will be fed automatically to the dispensers. It will also be possible to transfer them automatically between pairs of palletisers.

So having decided on the majority of major equipment items – the only outstanding ones being are the overall production management control system and press services – it is full steam ahead for NI. The Broxbourne site has received planning permission, while at Eurocentral in Scotland and Knowsley, the building work has already commenced. As a result the first press is due to arrive in Scotland in May next year, with Knowsley receiving its first machine in August and Broxbourne in January 2007. PJ



● Mark IX palletising system from Dan Palletiser