APL logistics – the plate logistics benchmark

Another milestone along the way to full automation of newspaper printing

One Touch is the name of the manroland vision: printing at the press of a button, with only one operator, at only one control console. Implemented in the newspaper printing systems of the COLORMAN autoprint series. With the first installation of APL logistics, the integrated workflow for printing plate logistics, manroland has come another step closer to making this vision a reality.

Together with the practice-proven APL automatic plate changing system and inline control systems, APL logistics is a groundbreaking step towards full automation and thus the highest level of efficiency in newspaper production. The four APL logistics modules form the workflow from job planning right through to plate changing. **APL transport** uses a rail network to bring the plates to the printing unit where the APL robots mount the plates on the cylinder. Prior to this, **APL supply** transfers the exposed plates to the wagons on the rail network. **APL sequence** organizes plate exposure, and **APL control** is the central computer, which controls the workflow.

What makes APL logistics so unique?

manroland offers an unbeatable system due above all to the software solutions in the prepress area, integration of the logistics software in the manroland peripheral equipment, and the ergonomically sound design. APL logistics is unique in the following respects:

- **Practice:** manroland provides the only completely developed logistics system on the market that extends from prepress to the printing unit including hardware and software solutions. Practice-proven with customer installations.
- **Design:** since the rail network is installed on the pressroom ceiling, access to the system is flexible and the height of the printing units is not increased.
- **Makeready time:** with APL from manroland, plates are mounted and clamped in one step. This permits full utilization of the makeready time advantages of the APL plate changing system.
- **Flexibility:** in the event of a technical transport problem, manroland has a back-up solution. Boxes containing printing plates are supplied to the APL robot manually which then clamps the plates.

The task of APL transport is to automatically transport the plates from anywhere in a soundproofed room to the APL robot which loads the plates in the printing unit. The optically impressive part of APL transport is the rail network, the logistics core is the control software. The exposed plates are put in a transport box and taken to the APL robot on a rail track adapted to suit the customer's pressroom. This is

manroland AG is the world's second largest printing systems manufacturer and the world's market leader in web offset. manroland employs almost 8,000 people. The company has annual sales of some 1.7 billion euros with an export share of approximately 80% (2008). Webfed and sheetfed presses provide solutions for publishing, commercial, and packaging printing.

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where plate changing takes place. The objective is always to optimize production time and so manroland integrates the logistics system in existing workflows and matches it to the customer's product range.

The task of APL supply is automatic loading of the boxes with plates for each robot. They were jointly developed by manroland and KUKA Roboter from Augsburg. It is important that each robot receives the right plates at the right place at the right time. APL sequence ensures this. The APL supply robot picks up the plates by suction and puts them in the boxes that are driven to the APL plate changing robots.

The task of APL sequence is the coordination of the software and hardware in prepress to ensure the plates are delivered in the sequence needed for printing. The APL sequence control covers exposure, plate processing, edge bending, and intermediate storage. Compared to conventional plate supply methods, APL works in a more organized and time-optimized manner: when plates are delivered in the correct sequence, fewer replenishment plates are needed and there is plenty of time to prepare and deliver them to the press. Which software is used by APL sequence? Software solutions tailor-made for the customer. For the usual APL requirements, printnet OM job management software offers expanded functions.

The task of APL control, a workflow computer with tracking functions, is to control the logistics process. The controller (computer) with open interfaces consists of a server and a touchscreen operating station. The control planning and commands come from printnet PressManager. Wagons are selected on the screen and planned per drag & drop. Besides the control function, APL control takes care of visualizing and tracking of the logistics processes for APL sequence, APL supply, and APL transport.

Security through PlateScan: As an option, the APL logistics system is expandable with a plate scanner. This is an additional control function to make sure plate imposition is correct before they are loaded. PlateScan is optimally located in the workflow to meet individual requirements and is available as a fully- or semi-automated version.

APL logistics is future-oriented

APL logistics stands for makeready time reduction and good ergonomics in equal measure. In other words, a less stressful, silent working environment. Integrated in the autoprint series with APL and numerous inline control systems that reduce makeready time and assure quality, manroland offers a press concept that meets the demands of the market for production efficiency and operating economy.

The advantages at a glance:

- Plate production opens out into a well-organized just-in-sequence release
- Automated plate transport saves manpower
- Automated controls reduce errors

- Change-over process integrated in the printnet workflow concept
- Later deadlines mean greater topicality for publishers
- Production is more flexible
- Minimizing press downtimes increases capacity

Caption:

APL logistics: the first plate logistics system to be practice-proven with customer installations.