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## Paper production increased by 10% with ABB machinery drives

A Manchester paper mill has increased its output by 10% with the help of three ABB machinery drives, installed by system integrator Drives and Automation. The drives control three electrically driven machine sections and synchronise these with the rest of the machine, which is driven by a line shaft, without the assistance of an external PLC.

Romiley Board Mill is an independent paper mill that manufactures paperboard from recycled fibre. The board is mainly used in packaging. The company saw an opportunity to increase output by adding a new dryer section to its existing paper machine. To avoid costly mechanical modifications to the line shaft, the new section needed to be electrically driven. The new configuration of the machine also required independent speed control of the existing calender and reel-up sections with sectional drives.

“The ABB machinery drive was identified by Drives and Automation as the most suitable AC drive for this application,” explains Ernie Domville, technical manager of Romiley Board. “All functions for sectional speed control and communications are contained within the drive, which means that a controlling PLC is not required. In addition, the ABB machinery drive represents latest technology, which will remain current for many years. The mill already has many ABB drives, both AC and DC, and we are well satisfied with ABB’s products”.

The first drive receives feedback from an encoder on the line shaft and the set point is then cascaded from one drive to the next. Each drive controls a 37 kW ABB process performance, high efficiency AC motor.

In a conventional setup, a PLC would feed out to all sections, each one driven by a DC drive. But with the control capabilities of the ABB machinery drive, no central control function was needed. In addition, robust and maintenance-free AC motors could be used.

“All programming can be done inside the drive, so no PLC is needed,” explains Nigel Vivian, one of the directors of systems integrator Drives and Automation. “This simplifies the system and reduces cost. No separate software is required. The operator controls the sections from an interface linked to each drive.”

Drives and Automation is an approved ABB Systems Integrator and was responsible for programming, installing and commissioning the drives as well as supplying the motors and panels.

“The functionality of the ABB machinery drive can easily be modified or extended using standard, built-in function blocks,” Nigel Vivian says. “The programme resides in a separate memory unit. This enables easy maintenance and repair – just changing over the memory unit transfers the programme to a new drive. Local engineering staff can achieve this very simply.”

The new dryer comprises eight steam heated cast iron cylinders supplied by Parsons Reiss. The project has now been operational for over six months and the new drive system has been trouble free and quickly accepted by the operators.

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**Caption:** A Manchester paper mill has increased its output by 10% with the help of three ABB machinery drives.

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**For more information please contact:**  
**Layla Hewitt**  
**Marketing Communications**  
Phone: 01925 741517  
Email: [layla.hewitt@gb.abb.com](mailto:layla.hewitt@gb.abb.com)

**ABB Ltd.**  
Daresbury Park  
Daresbury  
Warrington WA4 4BT

**Emma Jenkinson**  
**Armitage Communications**  
Phone 020 8667 2218  
Email: [emma.jenkinson@armitage-comms.co.uk](mailto:emma.jenkinson@armitage-comms.co.uk)