Industry: **Textile**

Products Used: **FX PLCs /// SCADA**

Mitsubishi system brings benefit to yarn dyers

Rowan System Controls chose Mitsubishi Electric's PLCs and MX SCADA software to build a production monitoring system for Spectrum Yarn Dyers.

Occupying a traditional five floor mill, Spectrum Yarn Dyers has a very modern yarn production business. They produce a wide range of yarn types from both synthetic and natural fibres, in a variety of colours, for a number of different customers. The spinning process goes through two or three production stages. Each machine has 14 or 16 yarns wound onto bobbins and stoppages are critical in this high speed process. Previously the reasons for any stoppage were recorded in a book, but this method has proved to be inconsistent and unreliable. Spectrum needed a system that would provide them with true real-time data about the processes, enabling them to analyse the cause of breakdowns/stoppages and also to monitor each machines yield.

To see if automated monitoring could help increase production Spectrum provisionally started automatically overseeing 12 almost identical machines all being run by different operators. With yarn production it is important to monitor variations in production in order improve performance. The new system helps identify if production problems are due to production machinery, raw materials and even operator training.

Using the MX SCADA software information is continuously collected and brought back to a main operating screen on a PC where the status of every machine is displayed. By clicking on any of the machine icons on the PC's screen, it is possible to display a record of the machine's performance over the past 24 hours, and by relating this to the performance of the other machines, yarn type, machine setting's etc, it is possible to determine the cause of any production problems.

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>
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> Rowan System Controls

Ian Morris, Chief Engineer at Rowan System Controls says "We chose to use Mitsubishi Electric's PLCs in this application because they have six integral high-speed counters, whereas most competitors' products only have one. The yarn speed needs to be monitored every 5-10 seconds and data from the yarn speed sensors are multiplexed and read by the PLC. This makes their use very cost effective, as a single FX PLC can monitor up to 96 machines".

Such is the success of the system that at least 38 more machines are expected to be brought onto the new production monitoring system in the future. The investment has brought about considerable improvements and can be justified with just a 1% increase in productivity.

Application story first released March 1998 by Mitsubishi Electric UK