



Consolution

"Solutions for a more efficient business"

➤➤ Case Study:

➤➤ Customer:
Sharp Interpack

➤➤ Project:

Our Challenge:

Sharp Interpack are one of the UK's biggest food packaging extrusion and thermoforming facilities in the UK.

They have a number of extrusion lines supplied by various manufacturers differing in age and type.

A raw materials wastage problem was brought to the attention of the Consolution team and after investigation it was found that the industrial gravity weigh fed blenders were not being monitored consistently for material usage.

Without continuous monitoring the process was exposed to operator error and far more virgin plastic was being consumed by the company at a cost of around £40,000 month.

The Solution:

It was identified that the serial data reports stored in the microprocessors of the legacy blenders should be extracted and made available to operations management to identify where losses were being consumed. Furthermore the gear pump speeds of the main extruders and co extruders should be monitored to identify the speed ratio's

Machine Trials:

After performing machine data trials Consolution successfully won the order to design, install and commission a serial data acquisition system consisting of:

- Six Serial to Ethernet Data Acquisition panels for six industrial blenders.
- 4 x 2 Panel conversions consisting of conventional analogue to Ethernet DAQ units and interfacing with several different variable speed drive manufacturers.
- Development of Serial to Ethernet drivers and data manipulation into SQL Database format for integration onto the site wide network.

Assistance to the Sharp IT department to enable data integration into WEB enable format.

Benefits identified:

- Material usage vs Shift Patterns
- Material uses vs Cost.
- Material Ratios
- Virgin Material vs Regrind (for Blenders).
- Conventional production data can be combined e.g. gear pump speeds.
- Seamless email reporting functions for scheduled batch information or alarm conditions.
- Average comparisons for production runs.

Design:

- Electrical design and specification to BS7671 including Block cable diagrams, Layouts, Schedules, Cable Calcs etc.
- Instrumentation control loop design and specification including loop drawings and loop calibration draft certificates.
- Control Panel design and build to functional requirements for external application including all G/A's, Schematics and parts lists.
- Integration design of control system onto site wide SQL Database and assistance in integration of data into a WEB enabled format so data can be viewed via any WEB browser.

Panel Build and Installation

Stand alone steel control panels each with a serial to Ethernet convertor plugging directly into a site LAN RJ45 Socket.

Install above control panel, cable containment, mains feeder cables, BS5308 instrument cables and LAN network cabling.

Commissioning:

Electrical testing of all mains cabling and equipment to BS7671:2008.

Instrumentation loop commissioning and certification.

System integration and data trials.

Process and operation commissioning hand in hand with the Client.

The project was completed successfully in 2008

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