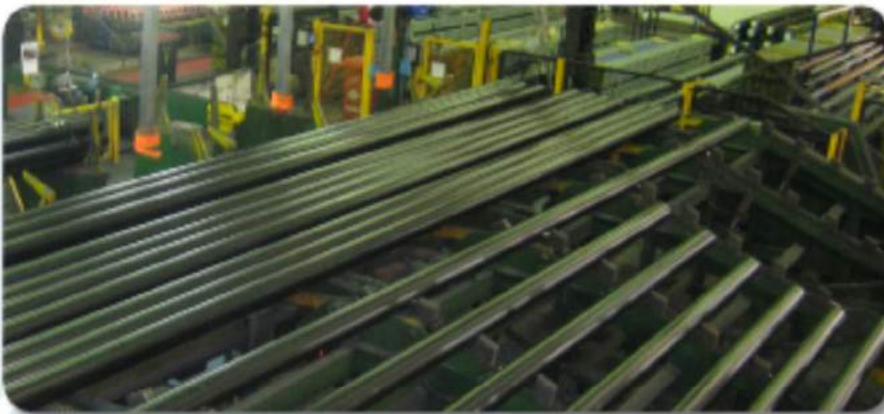




Orrcon Steel

Orrcon is a leading manufacturer and distributor of Steel Tube and Pipe in Australia.



Orrcon specialises in the manufacturing of Precision tube, Structural pipe and RHS, water pipe and API Accredited Oil Gas line pipe.

Orrcon has four manufacturing sites located in Brisbane, Adelaide and Wollongong with a total of eight mills collectively, all facilities are state of the art.

Challenge

Upgrade of the existing Siemens S5 control system to a Siemens S7 control system with minimum downtime.

Solution

The ageing Siemens S5 system would be replaced with a S7 system. The new system was programmed from a functional description developed by Cromarty from the old S5 code.

Results

With careful planning and testing the conversion was completed over one weekend with minimal interruption to production.



Challenge

The Orrcon Salisbury Site Plan included increasing the utilisation of existing assets by reducing mill constraints and improving Overall Equipment Efficiency. The OTO Mill QA table and Bundler (tube packaging unit) were identified as speed constraints on the overall OTO Mill production.

The Bundler Automation Upgrade Project would provide an immediate speed increase of this individual process by reducing cycle times to end face pipes, reduce the unnecessary down time because of the fragility of the sequences causing the machine to “drop out” of automatic mode, reduce overall QA table downtime and reduce unnecessary spoilage from Mill stoppages caused by bundler and end facer problems. Cromarty were engaged by the Orrcon Engineering team at its Salisbury site to design, test, install and commission the hardware and software associated with the upgrade of the existing Siemens S5 PLC control system to a Siemens S7 PLC control system.



Solution

The S5 PLC was replaced with an S7 PLC that was retrofitted back into the existing control cabinet. The S7 PLC was programmed from scratch using a full functional specification and design specification. Both these specifications were written by Cromarty. The functional specification was written from the existing S5 PLC code and other recognized improvements to the control system. The design specification defined the programming methodology that resulted in a PLC program that was easy to follow, easy to troubleshoot, modify and maintain, and easy to write a successful and informative HMI program for operators and fault finding. The main bundler console was rearranged to a more ergonomic and intuitive layout. A new HMI screen was installed at the bundler console. The HMI displays comprehensive alarm and status information and informs the operator of the exact state of all the control sequences in the bundler area.



Results

Salisbury's Engineering & Technical Services Manager, Steve Chapman said, *“The upgrade was completed to plan over one weekend with minimal interruption to planned production. A terrific result from Albert and his team. We're now confident that the speed benefits identified have been exceeded four fold and several other opportunities for improvement have been identified. We are working to detail these and we look forward to further improvements and cost benefits”*.

Salisbury's Production Manager, Nigel Robbie said that the project was a sterling achievement. He added, *“I have spent many weeks on sites waiting for world leaders in bundling systems to get their equipment to start. I congratulate the guys on getting the machine up and running within such a short period of time”*.

Launceston:

PO Box 103, Newstead
TAS 7250
79 Howick St, South
Launceston TAS 7249
t 03 6344 9110
f 03 6344 1221

Hobart:

99 Brisbane St
Hobart TAS 7000
t 03 6231 4549
f 03 6231 4540

Devonport:

83 Don Road,
Devonport TAS 7310
t 03 6423 6366
f 03 6344 1221

Melbourne:

Factory 3, 4-6
Commercial Crt
Tullamarine VIC 3043
t 03 9335 1972
f 03 6344 1221

Brisbane:

12/67 Depot St
Banyo QLD 4014
t 07 3177 4200
f 07 3861 9379