

# **Application Highlight:**

## **Upgrade of Husky Injection Molding Machine**

### **“1974 to 2008 in 48 Hours: a 5TI Migration Project”**

The 5TI system was released by Texas Instruments in 1974, and thirty years later a large number of units are still controlling machines around the world. One such installation is on a Husky XL225PET injection molding machine used at Queensland Blow Moulders in Lytton, QLD, Australia. After decades of reliable service the 5TI processor had developed an intermittent fault that changed the preset values of certain timers, resulting in machine malfunctions, wasted raw materials, and production loss. Needing technical assistance, they contact 2500 Series™ distributor CT Oceania of Brisbane, Australia.

#### **Proposed Upgrade**

CT Oceania developed a proposal to replace the 5TI processor with a new CTI 2500 Series™ processor. Management was concerned (based on previous control system migration projects) that attempting a migration would result in extended periods of downtime while bugs and issues were resolved before consistent full production could be achieved. CT Oceania explained that unlike other migration options available, the 2500 Series™ was very low risk because:



- Although the program conversion in this case was manual, it was simply a data-entry exercise since the 2500 Series™ processor supports the 5TI instruction set. The time, cost, and risk associated with developing and debugging a new program was eliminated.
- The CTI 2500 Series™ processor interfaces with the existing 5TI I/O in the system, eliminating the risk, cost, and time associated with modifying, testing, and documenting new I/O and wiring. Should a 5TI I/O module fail in the future, it can be quickly replaced with 2500 Series™ I/O with minor changes to the PLC I/O configuration and wiring, but no changes to the program.
- The 2500-R4 Four-slot I/O base needed fits in the 5TI's footprint in the panel, so no cabinet modifications are needed.
- The existing timer/counter interface is easily replaced with a CTC XPR touchscreen which interfaces directly to the 2500 Series™ processor.



#### **Upgrade Result**

The entire migration project took less than 48 hours to complete. The installation, training, and commissioning phases took less than 4 hours. The machine has since been running in full production without incident.

Queensland Blow Moulders are very satisfied with their new control system that offers all the benefits, performance, and features expected of a modern PLC



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platform. They are looking forward to continued operation of the machines for years to come. In summarizing the experience, Alan Wilkes, Managing Director of Queensland Blow Moulders said, "I recommend the CTI 2500 Series™ migration solution for 5TI PLCs. We only had to replace the failed component and it was the most seamless control system migration project I have experienced".