

# Application Highlight:

## Semiconductor Company Upgrades Obsolete Siemens® TI505 PLC to CTI 2500 Series™

One of the world's leading manufacturers of advanced semiconductor solutions performs assembly and test operations at a site in Singapore. This site supports fabrication from plants in the United States, Europe, and Asia.

### Existing Control System

Within the Singapore site, there are nine Siemens® TI505 systems, each operating multiple remote I/O bases over RS485 and Profibus. Each system is responsible for different processes; however, all the processes are interrelated and all processes must operate 24/7.



The existing systems communicated via Ethernet using 505-CP2572 to a Wonderware SCADA. These systems have previously been changed from using Tisoft to PLC Workshop for programming their PLCs, due to the advantage of communicating via Ethernet to the PLCs.

Because the facility must maintain 24/7 operation, they could not afford to take high risks for major changes in process and SCADA software – which often require long downtimes for troubleshooting and testing. Changes in process control hardware and software must instead be made during the annual maintenance shut down which provides only about 12 hours for all necessary changes.

### Proposed control system with CTI 2500 Series™

In order to meet the requirement set by the manufacturer, Region Distributor and Automation Partner, Sermax had proposed to upgrade existing 545-1106 and 505-CP2572 units with CTI. Because 2500 Series™ system supports the same instruction set as the one used in the Siemens® TI505, no changes in the program logic were required. And because 2500 Series™ supports the same Ethernet protocol used on 505-CP2572, no changes were required for the SCADA system.

### Upgrade Result

The first CTI 2500 Series™ CPU was installed in the Singapore site in December 2009. The installation went smoothly, requiring less than 2 hours of migration time. As a bonus, the upgraded system now has two Ethernet ports (1 on 2500-C200 and 1 on 2572-A) which provide higher throughput and redundancy. Although Sermax was present at startup to handle any problems, there were no PLC program or communication errors when the plant was restarted. The customer was very satisfied with the migration due to these factors:

- No or minimal changes to process software and SCADA System
- Driver compatibility with predecessor Siemens® TI505
- Long term availability of support and spares
- Competitive cost



**Control Technology Inc.**

5734 Middlebrook Pike, Knoxville, TN 37921-5962  
Phone: 865/584-0440 Fax: 865/584-5720 [www.controltechnology.com](http://www.controltechnology.com)