DonJon Shipbuilding & Repair
TIA Portal Application Awards - 2012

Company Name: DonJon Shipbuilding & Repair

Location of Application: 220 E. Bayfront Parkway, Erie, PA 16507

Website: www.donjonshipbuilding.com

Key Business Activities: Shipbuilding and Repair

Name of Application: Automation of winches and navigational lights for new Tug Boat and Barge.

Description of Application: There were two aspects to this project:
1. The control of navigation lights on the barge from the tug boat via Ethernet.
2. The control of eight winches from separate operator stations on the barge.

What challenges led you to look at a new solution?

With the previous system there was no communication between the Tug boat and barge to control the navigation lights on the barge. DonJon needed a way to do this over Ethernet. In addition, a major challenge was dealing with the size of the barge and the distances between the operator stations and drives that control the six winches. In some cases the operator stations were over 750 feet away from the drives. DonJon faced huge costs in wiring if they could not find a way to easily communicate from the Winch operator stations to the drive control centers at the back of the barge.

What Siemens automation products were chosen for this project and why?

DonJon used eight S71214 PLCs (one for each Winch operator station) and several MP277 HMI panels on this application. Each S71214 PLC at an operator station communicated back to a main data collector S71214 PLC via a fiber optic cable, which in turn controlled all of the drives for the winches over Profibus. This solution eliminated a huge amount of wiring in this project. In addition, DonJon had prior experience with Siemens automation products, and were very interested in the S71200 PLC when it was released. For them the combination of the cost and features of the S71214 PLC, combined with the usability of the TIA Portal engineering software was hard to beat.

What features in the TIA Portal addressed your project challenges?

The integration of the PLC and HMI engineering software in one environment was a huge time saver. The networking of the PLCs and HMIs inside one project was easy, just drag and drop the connections. The navigation inside the TIA Portal was easy to follow and there is a consistent look and feel between the editors. The Online and Diagnostic editor made it easy to troubleshoot faults. Editing inside the LAD programming editor was easy.

How has your business improved?

DonJon has experienced at least a 30% reduction in engineering costs by using the TIA Portal. They saw a reduction in the engineering development time and in diagnostic and maintenance costs because the software was easy to use and was able to guide them quickly to any faults in the system.