

ATS Adds Years to Life of Component Manufacturer's Aging Production Line at 90% Project Cost Savings

Customer Challenge

Technology doesn't always evolve in a straight line. When one factory technology moves on while a related one stagnates, disparities arise that can challenge operators, maintenance staff, and managers alike.

Such was the case on the main production line at a large North American electrical component manufacturing facility. Robots, presses, and conveyors were all doing their jobs as expected; however, the device controlling them all—a PC-based controller running an orphan operating system—could not be upgraded. With every power interruption or lockout procedure, communication networks would crash and robots would have to be manually reset. Many control components were obsolete as well.

The manufacturer needed to bring its dated controller system up to standards without an expensive refitting of its production equipment. The solution had to be easy for operators to learn, familiar to electricians, and reasonably priced.

ATS Solution

The manufacturer looked to their existing supplemental maintenance provider, Advanced Technology Services (ATS), for their expertise to design a solution. After a detailed assessment of the environment, the ATS team of industry experts proposed a system built around a modern, well-supported programmable logic controller (PLC). The PLC would make it possible to retain the existing Allen-Bradley Flex I/O module and Kuka gantry robot drive motors. It would also manage all cell control functions and support Ethernet messaging to communicate with the existing material handling system stacker crane.

"Our facility awarded the contract based on the quality of ATS' recommendations," recalled the manufacturer's site maintenance manager. "We also agreed with ATS' proposal to install a new mobile teach pendant with improved features for our operators and maintenance personnel."

ATS designed, engineered and built the new electrical panels needed for the solution, which were plug-in replacements for the old panels. Safety circuits were improved where necessary, and off-site testing was performed to minimize startup issues. Finally, ATS created manuals and electrical drawings for the new system to assist future maintenance/repair needs.

AT A GLANCE

- Worldwide electrical industry components manufacturer
- Primary production line impacted by obsolete controller system
- ATS designs solution customized to existing production assets
- New package replicates existing operator controls, minimizes re-training
- Future parts, maintenance, and upgrade support assured
- Production throughput increased for 90% less than makeover cost

Bottom-Line Success

ATS' new solution took into account all existing mechanical, electrical, and operational requirements. The new controller interface was designed specifically to replicate familiar operator controls, making re-training nearly unnecessary. For the first time, managers could track production totals for each shift, thanks to the new controller's capabilities. Moreover, moving away from the PC-based controller ensured that parts, upgrades, and technical support would be available far into the future.

"ATS not only modernized our system within all project parameters, but also stepped in during the refitting to solve a problem with our stepper motors and drives," stated the site manager. "Those components were failing and obsolete. ATS' skilled maintenance technicians helped us locate and install a class of replacements that integrated with our new software, making the process virtually painless."

Thanks to the solution, the manufacturer was able to increase production output with minimal capital investment. "We estimate the total cost of our controller project to be less than 10% of what would have been required for a line makeover," the customer noted. "It's given our manufacturing assets a whole new lease on life."

Over 90% Savings vs. Line Makeover