digitalbridge

Press Brake Robotic Automation

Increasing Workforce Production

Challenge

Clark Metal Products (CMP) is a contract sheet metal fabricator in Blairsville, Pennsylvania working in electronics, medical equipment, testing and instrumentation, and transportation. As with many manufacturers, they struggle to maintain appropriate workforce staffing levels for their production needs. Specifically, they were experiencing a lack of available talent and those workforce limits prevented CMP from reaching optimum machine utilization levels. As a result, they turned to technology implementation to increase productivity with their existing workforce.

Approach

CMP identified their CNC press brake bending cell as an optimum area to apply automation and Catalyst Connection subsequently partnered with them through the Digital Bridge program. Catalyst's role was to provide an outside perspective on the project and conduct a thorough evaluation of the planned project. This process started with validating the technology business case through a detailed analysis of target parts including cycle times, order frequency, and volumes.

Catalyst then provided support to review the 3rd party proposal, verify CMP's requirements would be met, as well as position it for capital assistance funding through Digital Bridge. Catalyst also provided recommendations for CMP to develop a change management plan to position the implementation project for success.

clark

"Catalyst was able to provide contacts to integrators in our area, provide a template for questions that we should be asking ourselves to ensure a successful implementation and work with us in our data analysis to assist us with meeting our project goals. The knowledge and experience they brought was a huge asset to us!"

Paul Labuda, Director of Finance & IT

Contact Us

412.918.4300 wemakeithere.org/digital-bridge/

Solution

Clark Metal Products implemented an automated press brake tending system through Mid Atlantic Machinery that consists of a Universal Robots UR10e collaborative robot, customized pneumatic gripper, material in-flow fixturing, and appropriate safety equipment and enclosures. The system is integrated with the Trumpf press brake to allow for 2-way communication during the bending cycle. The completed part is then placed on a pallet within the cell for subsequent removal by the operator. Mid Atlantic Machinery assisted CMP in setting up five target parts as part of their implementation project and completed a training program to allow CMP staff to set up new parts as desired. The CMP team has set up two additional parts since the system was implemented.

Outcome

The press brake machine tending system went into full production on November 8, 2023 and has run for nearly 300 hours to date, producing over 13,000 parts. The cell was previously staffed by a dedicated operator, but now only requires initial setup and occasional unloading of finished parts and refilling of flat blanks for processing. Depending on the part size, the system can run unattended for up to two hours. Heavier blanks or larger finished parts require more frequent tending. In any case, the operator can now operate a second machine, effectively doubling their productivity.

Catalyst Connection was able to apply the Digital Bridge program to offset CMP's implementation costs by $25,000, accelerating the payback on the system beyond the conservative 24-36 month estimates. When considering reallocated labor, incremental production, and the ability to run some production off-shift, Clark Metal Products is well on the way to meeting their goals. Having successfully implemented this application, they are now considering automated sanding and grinding to address another workforce limited area.