Robot helps Penna Flame get on a 'roll'

Anew robot on Penna Flame's production line is another step to modernize its plant as well as make the company more attractive to potential employees

The Zelienople-based company is a roll manufacturer specializing in using flame-hardening techniques to strengthen metal surfaces.

For this project, Penna Flame worked with Robert Morris University in Moon Township and Innovation Works, a Pittsburgh-based nonprofit economic development organization, to design and implement the station where the robot will work. It will use flame hardening for industrial machine parts.

Traditionally, this process was done by hand, with a person using a torch on each tooth of an industrial-grade gear, for example.

"If he sneezes in the middle of a scan or shakes a bit, it changes the quality of the tooth," said Bruce Curry, sales manager. "This is going to be more consistent."

Using the robot in the production process hasn't eliminated a job, Curry said, but it created another position.

The person who handled that job is now working with one of the former students who worked on the project.

Shawn Auth, who majored in manufacturing engineering, was hired by Penna Flame after he graduated in December.

Adopting the technology also is going to attract a different kind of employee, Curry said.

"The younger generation, they want things automated," Curry said. "You've got to embrace technology and implement it in order to grow and sustain the life of the business."

The project was partially funded through a $50,000 matching grant from Innovation Works. The South Side organization awards grants to manufacturers with fewer than 250 employees.

"There are thousands of small manufacturers but they don't always have all their (research and development) needs met within their in-house engineers," said Bob Starzynski, director of the grant program.

"We award grants to help cover the costs to outsource R&D and also help pair the company with a nonprofit, usually a university, to help them develop the project."

The robot has been in place since April, according to James Orr, president of Penna Flame. Because of the increased production it brings, Orr said they've already been able to go back to a customer and reduce their prices by 26 percent.

Penna Flame hopes to have another robot in production in a year and is considering another for material handling in two or three years.

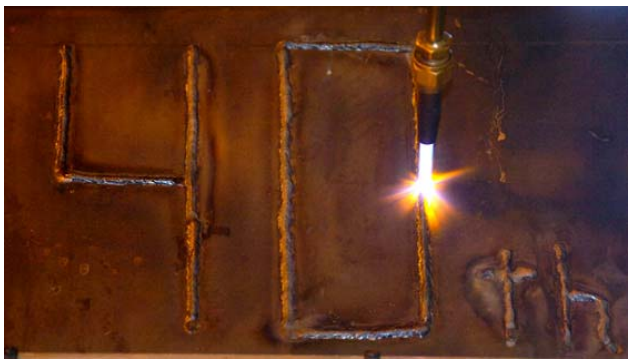
"We do 350 to 450 orders a month," Orr said. "The robot will see a portion of that, since it just one sector of our business. But it will probably allow us to heat treat other products that in past we couldn't do."

For instance, he said, the company has turned down large orders because it was too much to heat treat manually, Orr said. Now they can handle it, which also helps them compete in a global market.

The manufacturing industry still is a major presence in the Pennsylvanian economy, despite shifts to the service sector, which is why the industry needs to be proactive, Starzynski said.

"A lot of smaller manufactures are at great risk of being surpassed by larger companies

because of either the cost of manufacturing itself or they're surpassed by new technology," Starzynski said. "If they don't continue to innovate, they'll get left behind."
Starzynski said the number of colleges and universities in the state also gives manufacturing an advantage.
"(Universities) have very deep wells of research talent and tremendous amounts of research equipment that's perfectly able to solve some of the research challenges the industry needs to stay competitive," Starzynski said. "Our program makes that match. It's not just finding the dollars but also the research capabilities.
The robot was built by Michigan-based Fanuc Robotics. Robert Morris' Center for Applied Research in Engineering and Science created the work station and other components to make it fit within Penna Flame's process.
"Robotics is area where we as a region have a lot of capabilities, so I knew this was a project that could be successfully completed," Starzynski said.
The total project cost over $100,000. Innovation Works requires the companies to match the grants they receive.
Other companies that have received grants from Innovation Works are Butler Technologies and AGR International, Paul's Chrome Plating in Evens City and McGee Plastics in Warrendale.


The robot works at Penna Flame.

Penna Flame sales manager Bruce Curry, left, and James Orr, Penna Flame president, with the company's new robot.