BY LYNN STANLEY, SENIOR EDITOR

ACCESSING AUTOMATION

Invention gives contract fabricators a compact all-in-one robotic solution that eliminates manual layout and the need for multiple machines

HGG Profiling Equipment Inc., together with Automated Layout Technology, created RoboRail, an all-in-one plasma cutting machine.

Henry Ford's innovative production methods and his invention of the Model T car earned him a spot in the Automotive Hall of Fame in 1945. The founder of Ford Motor Co. said, "Coming together is a beginning; keeping together is progress; working together is success." He might have been describing the steps that led Automated Layout Technology LLC (ALT) to team up with HGG Profiling Equipment Inc. on the design/build of RoboRail, a new all-in-one robotic plasma cutting machine.

Like Henry Ford, ALT's leaders know a thing or two about inventions. Mike Evans and Stephen Chasse established the company in 2018 to develop and fabricate Lightning Rail, the first automated marking machine designed for the layout of commercial handrails, stair stringers and similar products. Evans, ALT's co-owner and sales director, credits Chasse with creating the Lightning Rail, which uses DXF files to rapidly, accurately print a layout of a handrail in minutes. The machine cuts fabrication time by more than 50 percent. Evans' father, John, is also involved in production operations for the patented CNC machine.

In 2019, Mike Evans saw a need in miscellaneous metals and had an idea of his own. "Contract fabricators often tell us that

Semifinished product fitted and welded from parts produced by RoboRail.

automation is not for them because of the mixed volumes and diverse range of parts that make up their market subsector," he says. "But that's exactly why they need it."

PROBLEMS SOLVED

Conventional production methods for metal products like stair stringers, platform reinforcement structures, rails and ladders typically require manual layout, multiple machines and staging areas in order to cut, cope, mark and make holes. This approach takes up valuable real estate on the production floor and eats into production time. Evans also identified material delays and a growing shortage of skilled operators as additional obstacles.

The robot and stationary chuck work in sync to cut angle, channel and flat bar with a closed contour.

"Creating an automated machine with a compact footprint that has the capacity and flexibility of larger equipment is the solution," Evans says. "But it was a bit of a unicorn because the machine didn't exist yet. That's when I reached out to HGG. They are specialists in 3D profiling and a leading supplier of pipe-cutting machines and robotic profile cutting lines, so they know a little something about cutting profiles."

Evans "really pushed us to help turn his idea into a reality," says Gerrit Teunissen,

general manager for HGG. "He saw a gap in the market. He convinced us it was a good idea. ALT personnel live and breathe general fabrication. They developed a niche product with LightningRail, and we believed that together we could do it again with RoboRail. Our knowledge and expertise in profiling allowed us to move through the research and development phase faster."

The new machine is manufactured by Netherlands-based HGG Group BV. ALT is the exclusive U.S. supplier. Houston-based HGG Profiling Equipment provides service, after-sale support and parts inventory for U.S. customers from a 6,000-sq.-ft. facility manned by engineers and service technicians.

ALT and HGG introduced the RoboRail at Fabtech 2022. "The goal is to build up inventory for the North American market and ship from stock," says Evans.

UNINTERRUPTED PROCESSING

The machine has been engineered with a Hypertherm plasma system to make cuts, holes and copes in handrail pipe, stringer channels, box tubes and angles. It can accept SDS/2, TEKLA and STEP files and a variety of other modeling software. The all-in-one robotic plasma machine can cut 12-in. channels, tube columns and angles up to 8 in. by 8 in., and 1¼- to 10-in. pipe. In addition to miscellaneous work, it can supplement larger capacity machines.

RoboRail's tilt torch gives fabricators flexibility, unlike a fixed torch

> **"A customer reported they eliminated four machines with the installation of one RoboRail."**
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> **Gerrit Teunissen,**
> **HGG Profiling Equipment Inc.**

configuration. The compact cell is designed to protect operators from high-speed robot motion and plasma cutting while they monitor processing.

"If you have a manual shop and you invest in this machine with one operator, it will easily do the work of eight people," Evans explains. "Manual layout for cut-to-length notching, for example, generally takes 1 hour and 20 minutes. RoboRail can do the job in 5 minutes."

"One customer reported they eliminated four machines with RoboRail," adds Teunissen. "Every part a job shop runs on the machine can be different. RoboRail provides uninterrupted processing by reading data from the profiles loaded. The more complex a part, the better. The machine is smaller, but it's not less precise. Its compact size also makes it faster than its larger cousin." Evans' design has provided HGG with options for continuing to improve the machine. "As the market evolves, we can keep pace with it," Teunissen says. "It's a machine that just gets better over time." FFJ

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