

Upping the ante

Why some companies are investing big dollars in large machine upgrades

Rather than sitting back and lamenting the grass is greener on the other side, some companies are doing more than muse about how to gain an edge on the competition. Proactive businesses are working to avoid falling behind as their competitors haul in bigger contracts with higher payouts.

By reevaluating business plans and strategies as well as current equipment limitations, companies are considering new ways not only to keep pace with the industry but surpass competitors. In

Mount Joy, Pa., Greiner Industries Inc. tackles large jobs and recently received the Roundo Model R-16S-XS, among the world's largest angle roll machines, from Trilogy Machinery Inc., Belcamp, Md.

"The machine is a lot larger than the machines we have now," says Bruce Sine, project manager at Greiner. "We have a lot of requests for quotes on sections we couldn't do before: pipes, beams and tubing. We wanted to exceed the competitors' capabilities."

Greiner produces pieces for a variety of projects, including simple archways, canopies or sections for bridges. Greiner's work includes houses, schools and bridges; "a little bit of everything," Sine adds. "We don't have a fixed product that we try to do." In fact, the company recently completed a project where it performed both rolling and fabrication for a large canopy at the Baltimore/Washington International Airport.





Left: Roundo's PSS 960/10 in Sweden. An 8 ft. by 4 in. plate is being removed from the machine after being rolled down to a diameter of about 40 in. **Above:** The R-16S-XS rolling a 40 in. beam at the Roundo facility in Sweden.

Interchangeability

"When you're rolling angles, there are different angle sizes: 6 in., 4 in.," says Sine. "If you try to roll them on a tight radius without the proper tooling, they won't come out square, they'll get twisted. We have invested in a lot of tooling to roll a lot of different sizes to make a quality product. We get comments back from customers saying it makes a big difference."

If a company doesn't have the right tooling, rolling the angles can prove difficult, Sine says. "There's a lot of pressure

to keep it square instead of having it rolled square," he says.

The upgrades some companies are making in their shops are not surprising to Allan Flamholz, president of Trilogy, who has been working in the industry for more than 30 years. "The hydraulics on the machines have gotten much more efficient with improvements made over the years," Flamholz says. "But the basic bending roll itself has the same function it had 120 years ago when shops were using mechanical screws to adjust the rolls instead of hydraulics. The basic geometry is the

same." Such improvements have not only improved performance but increased operator safety.

According to Flamholz, Roundo machines from Sweden have been on the American market since 1970. "Today we have close to 4,000 Roundo rolls in North America," he says. "Not everyone knows bending rolls like they know shears or press brakes, but those who know bending rolls know Roundo—it's the Cadillac of the industry because the company is known for its willingness to customize machines to meet the customer's needs."

Bending/Folding

The main frame on all Roundo section bending machines is welded steel construction, machined and line bored using the heaviest components for added strength and rigidity, according to Trilogy. Roll shafts are made from high-strength chrome-nickel alloy steel and are the largest-diameter shafts of any comparable machines. It also provides greater drive torque, so sections can be rolled in fewer passes, resulting in less deformation. The standard tooling is a combination set for bending angles both leg-out and leg-in, flat bar on flat and on edge. Hydraulic cylinders individually adjust the two lower rolls. Roundo's S models, R-2-S to R-21-S, are especially versatile because of the design of the hydraulic guide rolls.

A machine like the Model PSS 960/10 plate roll can handle "a lot of thick materials," and customers who need a "machine that has the opening and power to bend material down to small diameters and withstand the heat of the material while it's being rolled" find this model to be ideal, says Flamholz.

Trilogy also sells machines with computer-controlled capabilities. The Roundo wCNC2 is a PC-based CNC control, which uses Microsoft Windows, allowing operators to view functions on a graphical interface. The software includes a library of bending "wizards" to produce good parts rapidly.

Different systems offer different levels of sophistication. For example, the Roundo RLC/3 logic control system is a PLC-based control system designed and developed for small section and plate bending machines and can control up to seven axes. The Roundo RLC/1 position control system is a basic positioning control, allowing an operator to preset two values for each axis. The system automatically stops the movement of the bending roll when the pre-set value is reached, helping operators avoid repetitive bends.

"Roundo was the first on the market to develop the computerized plate roll back in 1985. The machine itself will last 20, 30 years, but the control systems are subject to obsolescence," says Flamholz. Roundo has upgraded computer systems for customers who did not wish to replace their entire ma-



Greiner's trusses built for the Baltimore/Washington International Airport.

“The Roundo machines do what they say they can do. You stick with what you know works.”

Bruce Sine, Greiner Industries Inc.

A 14 in. pipe with a Schedule 160 wall thickness being bent to an 84 in. inside diameter at Greiner's facility.





chines. "The customers with machines from the 1980s have not been abandoned and anyone who has wanted to has had upgrades for the control systems—so we have customers with machines from 1989 with today's computer systems," he adds.

Worth the investment

Greiner emphasizes its need to combine some of the fabrication along with the rolling services for its customers. Investing in the new Roundo machines will help Greiner accomplish that.

Sine also notes some fabrication methods are changing. For instance, cold cambering is becoming more prevalent in the production of bridges. "Some states require hot cambering, but that seems to be changing. Bridge codes are beginning to allow cold cambering to get away from all the heating," Sine says. "New York state requires hot cambering, but that might change sometime in the future. The Roundo Model R-16S-XS will help us do that. This is an added benefit that we were not even aware of when we purchased the machine."

Sine says one of the reasons Greiner decided to purchase an additional machine from Trilogy is because the company has had great success with the

Roundo machines it has currently. "The Roundo machines do what they say they can do," he says. "You stick with what you know works. We were concerned with going with something this big and not having the experience with other machines. But we're excited about the future and already have jobs lined up to get us started working with the new machine."

"I'll call Allan directly if I have a question or problem," Sine says, adding while he has operators who are familiar with larger machines, he can help train them if the need arises. "If Allan can't answer my questions, he'll have someone call me. It's quick, and we really don't have too many problems to begin with." **FFJ**

Greiner Industries Inc., Mount Joy, Pa., 800/782-2110, fax: 717/653-8642, www.greinerindustries.com.

Trilogy Machinery Inc., Belcamp, Md., 410/272-3600, fax: 410/272-3601, www.trilogymachinery.com.