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WORTH IT

Technology upgrades eliminate function failures and provide a new lease on life for machinery

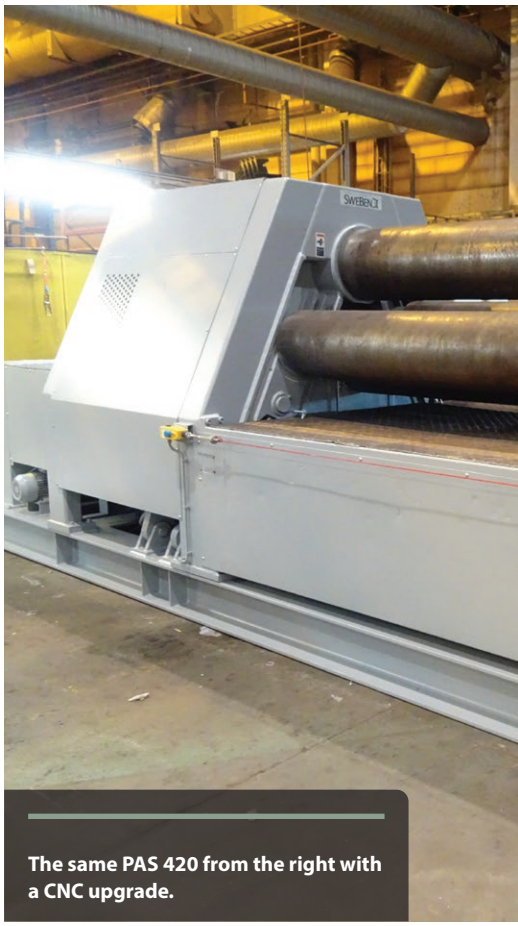
Unlocking untapped abilities, or hidden potential, means discovering latent qualities or abilities that can be developed and encourage future success. With older bending rolls, just a few upgrades can reveal surprising levels of smoothness and precision.

Matt Weeks, product manager at Trilogy Machinery, a fabricating machinery importer and distributor of SweBend bending rolls based in Belcamp, Maryland, says that an "upgrade or retrofit does not really change the main function of the machine. Instead, it can make it easier to operate by leveraging the latest technology and software, which have advanced greatly over the last few decades.

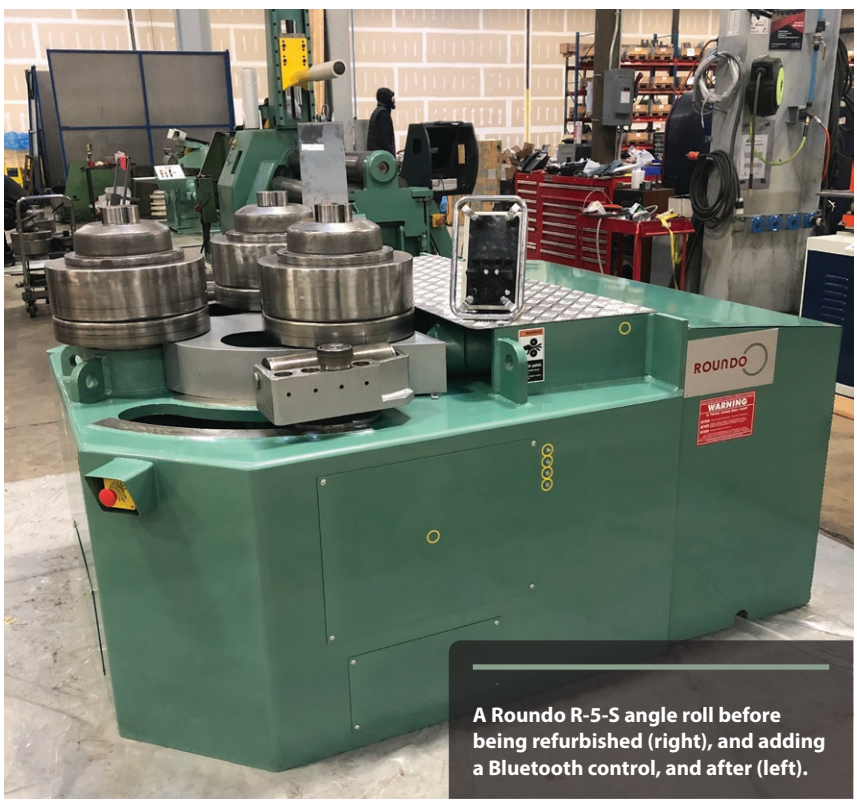
"Some customers with an older machine might be locked into a single operator that knows how to use it because that operator has been around since the machine was new. After we complete an upgrade," he says, "the new software is so much easier to use that new operators are able to learn and become proficient."

EVALUATION

Weeks says that there are typically three major scenarios seen with older rolling machines: machines in good shape with an outdated CNC or control system, machines that have both outdated controls and mechanical wear and tear, and machines that aren't good candidates for an upgrade.

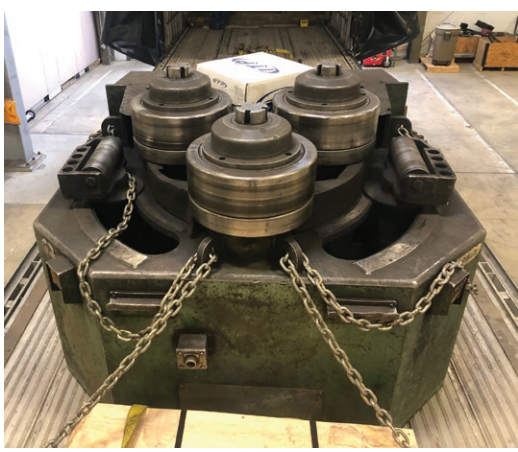


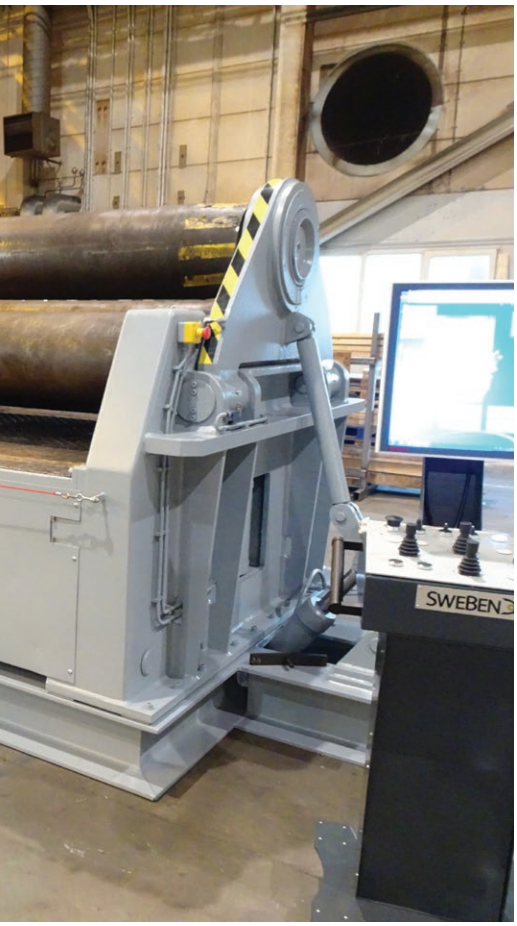
The same PAS 420 from the right with a CNC upgrade.

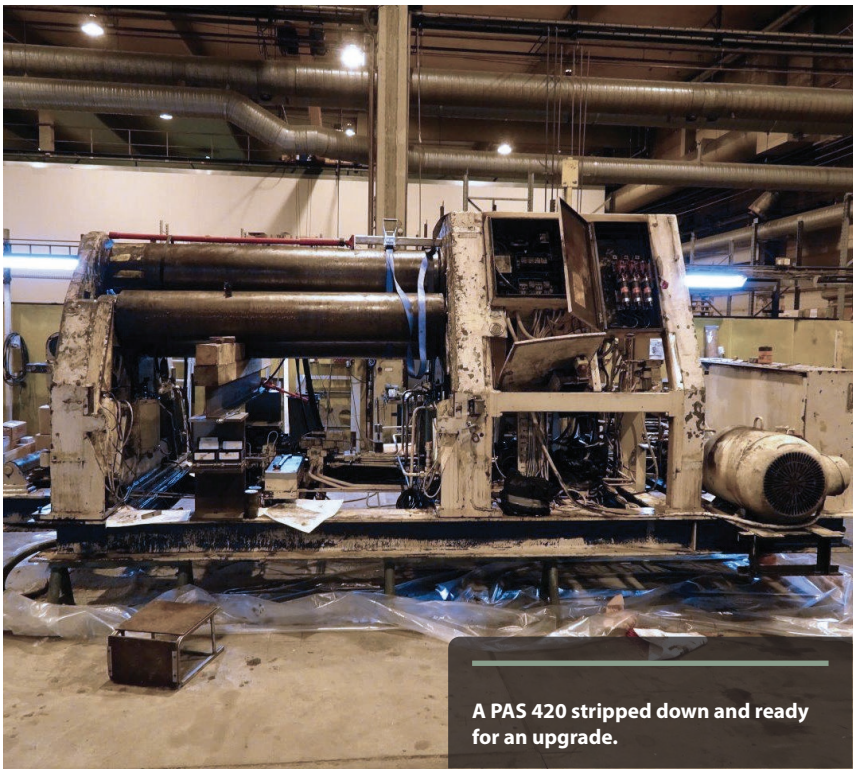


A Roundo R-5-S angle roll before being refurbished (right), and adding a Bluetooth control, and after (left).

Equipment that is in good shape simply needs an upgraded control. "For a manually operated machine, that might mean an upgrade to a new Bluetooth wireless control unit. For a CNC machine, that might mean







A PAS 420 stripped down and ready for an upgrade.

> **"As long as the main frame is in good shape, we can repair or replace just about everything else."**
>
> **Matt Weeks,** Trilogy Machinery

a complete upgrade to a new, more modern CNC control system."

If there are additional issues, such as "hydraulic cylinders that are leaking or drifting, electrical components that are old and prone to failure, and functions that are not working properly, we must be careful to evaluate the machine to ensure the level of investment required to bring it back into a reliable operating condition is worth it."

Most of the time, this decision is made by determining the cost of replacement versus the cost of retrofit or upgrade," Weeks notes. "For smaller, simpler rolling machines, often the cost of upgrading doesn't make sense compared to buying a completely new machine. The best candidates for an upgrade are larger, heavier-capacity machines where the cost of a new machine can sometimes be two or three times the cost of the upgrade."

Machines that often aren't good candidates for upgrading need too much repair or are too obsolete to accommodate the newer control technologies. "Sometimes, if an older machine is really showing signs of its age, it may not be in the best condition for a Bluetooth or CNC retrofit," says Weeks. "In that case, customers will often send their old machine to our site, and we can offer different levels of refurbishment."

Trilogy Machinery has a dedicated machine shop, as well as an industrial-size paint booth, 20-ton crane, and 50,000 sq. ft. of warehouse space to upgrade any size bending roll. "As long as the original machine was of good quality, we have the ability to tear them down to the bare frame and rebuild or replace virtually every component," says Weeks. "It's sort of like rebuilding a classic car. As long as the main frame is in good shape, we can repair or replace just about everything else."

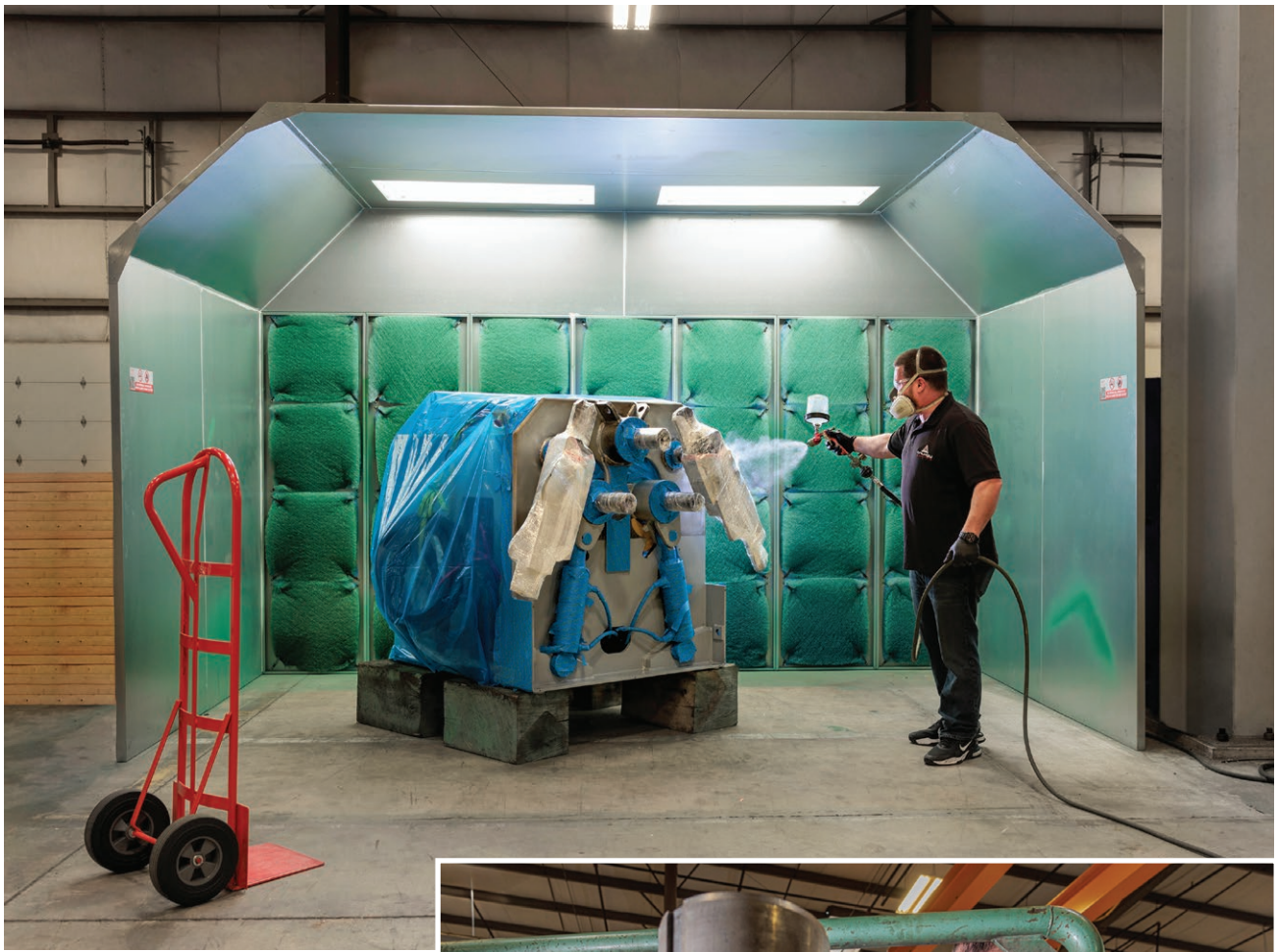
BLUETOOTH VS. CNC

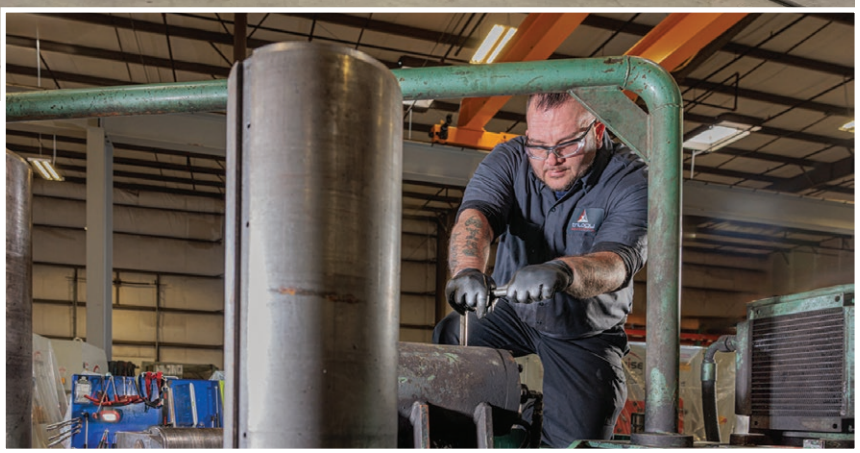
The operator interface "is the part of the machine that gets used and abused the most, so it's not uncommon to see the typical corded pendant control develop broken buttons or other functionality issues," says Weeks.

Replacing that control with a modern wireless control unit allows for customization, such as a combination of joysticks, push buttons and digital readouts that allow for easy control of all functions.

"This upgrade is particularly helpful for larger plate and angle bending rolls," notes Weeks. "There is a massive benefit for the operator to be able to use a wireless control unit to be able to walk around the machine and see how things look from different perspectives while still having control of the machine—as opposed to being locked in a single location with a fixed control unit."

Machines that have obsolete CNC systems—ones based on Windows XP or even older operating systems—can undergo a retrofit and have their control system replaced with "a SweBend SevenX CNC control system." Weeks says this service has become popular since word is reaching customers that have older CNC plate or section bending machines. A CNC machine is not a low-cost investment. If there is an option to extend the





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life of an older machine, that will often give a better ROI for the customer than buying new equiment. The latest CNC system "can give a 15- to 20-year-old machine the ability to perform for another 15 to 20 years"—and roll parts with less trial and error, he says.

The SweBend Seven X control system provides advanced algorithms that learn how material rolls and make corrections to ensure better results.

"Basically, the more you roll and teach the machine, the smarter it will get when it makes a guess as to the correct positions and movements to roll a new part," Weeks says. External devices can be added in the right circumstances to actively measure the radius of the part being rolled, which gives active feedback to the CNC "so it can automatically make corrections without operator intervention."

TIME INVESTMENT

Weeks says that upgrades can take anywhere from a few days (for a simple CNC system upgrade) to several weeks or even a couple of months for a full refurbishment, where a machine is disassembled and components replaced. "This might seem like a long time, but lead times on new replacement machines can be six-plus months, so this is still a faster alternative."

Customers typically are happy with the results, says Weeks. "At a bare minimum, you take an older machine and bring it back to a place where it is operating more efficiently and effectively, which automatically means there is a cost savings, whether from time savings or reduction in scrap and inaccurate parts that need rework." FFJ

Trilogy Machinery, trilogymachinery.com.