



Innovate

Lenox 360 Cuts Through Barriers to Bandsaw Performance

James Langford | Sep 13, 2022

Lenox has never believed in customer relationships that dissolve as soon as transactions are completed. Following up with its bandsaw-blade buyers to ensure they're getting their money's worth is a longstanding priority.

Until now, however, it was often difficult to figure out why a blade hadn't worked as expected if no one had witnessed what went wrong in real time.

The new Lenox 360 System solves that dilemma. Using *Internet of Things technology*, its sensors gather operational metrics and evaluate performance around the clock, funneling data into computerized displays as well as a digital storage cloud, enabling users to change saw blades before they wear out.

That's a game-changer for buyers, since bandsaws are typically used by big fabrication houses and steel service centers to shape extremely large, expensive blocks of metal direct from mills.

"If a blade gets down into a piece of metal and it breaks, or something happens halfway through it, a lot of times they can't use that part because they can't restart the cut," says Michael Ford, digital insights manager for Lenox. "They have to scrap that piece of metal," which is exponentially more expensive than doing the same in a smaller job.

"It lets us say not only that the machine is running but how it's running. Is it being efficient? Is it really being effective in doing the job, in maximizing tool life?"

Michael Ford
Lenox

In an era where machine shops and manufacturers are struggling with the twin challenges of labor shortages and supply chain disruptions, Lenox 360 reduces the effects of external cost pressure, too, enabling users to take full advantage of the resources they have on hand.

The system's potentially lucrative insight into a machine's operation goes far beyond that of utilization-based systems that report only whether equipment is operating or not.

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With Lenox 360, users can "dig in on a cut-by-cut basis, a job-by-job basis," analyzing a tool's performance with different workpiece materials as well as the operation of cells, or workgroups.

Lenox can then compare that data with ideal speed and feed rates for different materials in its proprietary **SawCalc** application, telling customers which tweaks would **optimize tool life or productivity**, depending on the company's business model.

Read more: Inside a Certified Weld Center: Producing Lenox Bandsaw Blades at Scale

"Tool life is something that is always important to customers, but along with tool life, they also want to get parts out the door faster," Ford says. The choice is between using an individual blade longer or maxing out its performance and completing more jobs than would have been possible otherwise.

Along with feed rate, speed, material removal rate and the life cycle of a blade, Lenox 360 evaluates chatter, or unwanted vibration that lowers workpiece quality as it increases and is a useful indicator of blade health. "The blade is healthy if we're seeing minimal vibration," Ford explains.

"The blade is close to failure if we're seeing a lot of vibration, which is indicated on the dashboard with a green, yellow or red light."

Users can compare their machine's performance with a graph of normal baseline vibration, see when a blade is starting to degrade, and then change it before it breaks or the teeth are stripped.

"Predictive blade changes are what we strive for," Ford says.

Lenox 360 is able to deliver its results with a noninvasive installation: Its sensors are all added to the exterior of the saw rather than being connected to a device's electronics or computer system.

Customer Feedback

Long before sales of Lenox 360 began, the company began working with customers to optimize its design and development.

While many buyers were interested in simply measuring tool life or machine usage, they quickly realized the system could offer far more.

One customer initially found a utilization rate of 55 percent and wanted to delve further to determine whether more machines were needed to complete jobs more quickly.

Lenox 360, however, showed cutting parameters that didn't maximize efficiency or effectiveness. Once they were modified so that machines ran at their proper rate, orders flowed through the company's shops much more quickly.

The changes freed the business to take on more projects and allowed salespeople to route jobs to worksites with the lowest lead time so they could receive their orders as quickly as possible.

"The company is getting more orders now from salesmen all over the country because their lead times have dropped to nothing, and that's just one example of what it can do," Ford says. "The feedback so far has been really great. The overwhelming response from customers is that they have benefited tremendously."

How could your business benefit from detailed real-time data on machine operation? Tell us in the comments below.

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