

Performance Pays: Lincoln CheckPoint® Weld Data Monitoring Helps SafeRack Welders Power Up Productivity...and Wages

When it comes to implementing innovation to improve business, SafeRack is no stranger to thinking outside the box.

From its humble beginnings as a small job shop, to a now recognized leader in platform systems and safety and fall protection equipment, this Andrews, South Carolina-based manufacturer has driven growth by being pioneers in the industry in using innovation and advanced technology to drive continuous improvement.

Therefore, when the company was faced with a challenge of increasing productivity and retaining their workforce in the core aspect of their business – welding – it was a no brainer to look for welding technology that could help.

“There isn’t anything we do that welding doesn’t play some part in,” said SafeRack’s Director of Manufacturing Doug Odum. Yet as the company grew, welding was one area at SafeRack that was slower to adapt a plant-wide focus of lean management and metric-based performance implemented to drive operational safety, quality, delivery, and cost improvement.

“As we grew, we kept working as a job shop,” said Odum. “We had little to no metrics across the organization. We operated on a ‘do the best you can, work hard, and get it done,’ philosophy. While that’s important, we were becoming a full-service manufacturing facility and needed something more.”

With manual welding crews covering three lines -- made-to-order (MTO) steel, MTO aluminum, and standard-stock aluminum – SafeRack welders were hitting their safety



SafeRack Corporate Headquarters - Andrews, South Carolina

and quality goals, yet the company struggled to grow overall throughput. Productivity varied from welder to welder and was hard to track. On top of that, the lines were experiencing high turnover due to a competitive regional job market.

“We just couldn’t get past it,” Odum said. SafeRack management knew it was time to find a better way to keep workers productive and on their welding lines. So, they started asking questions.

“As we talked to welders, we learned they want to control how much money they make,” Odum said. “They want to be paid for what they produce. The fact a less-productive welder next to them put out two times fewer parts and made the same amount of pay frustrates them. We kept hearing it over and over.”

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SafeRack daily operation huddles allow teams to observe and interact on the manufacturing floor.

Finding a Solution Through Weld Data

Company leadership pondered this information. After a few rounds of discussions, SafeRack management focused on finding a solution that would allow them to tackle both productivity and workforce challenges at once.

To do so, the operations team explored a pay-by-performance plan. The idea was simple – operators would continue to receive their base salary, but they would also receive a performance-based multiplier at the end of pay period. So, the more productive and efficient you are, the more you can make.

Although straightforward, the plan itself posed additional challenges. Mainly how would SafeRack accurately measure welding productivity and easily create obtainable benchmarks?

“It was important to me to see what good looks like,” said Jason Mersch, COO of SixAxis – parent company of SafeRack. “We always had an interest in improving productivity and how it affects people working here.”

Having always been a “metrics guy,” Mersch knew manually tracking the performance data for each welder would be time-consuming and sometimes inaccurate. With Industry 4.0

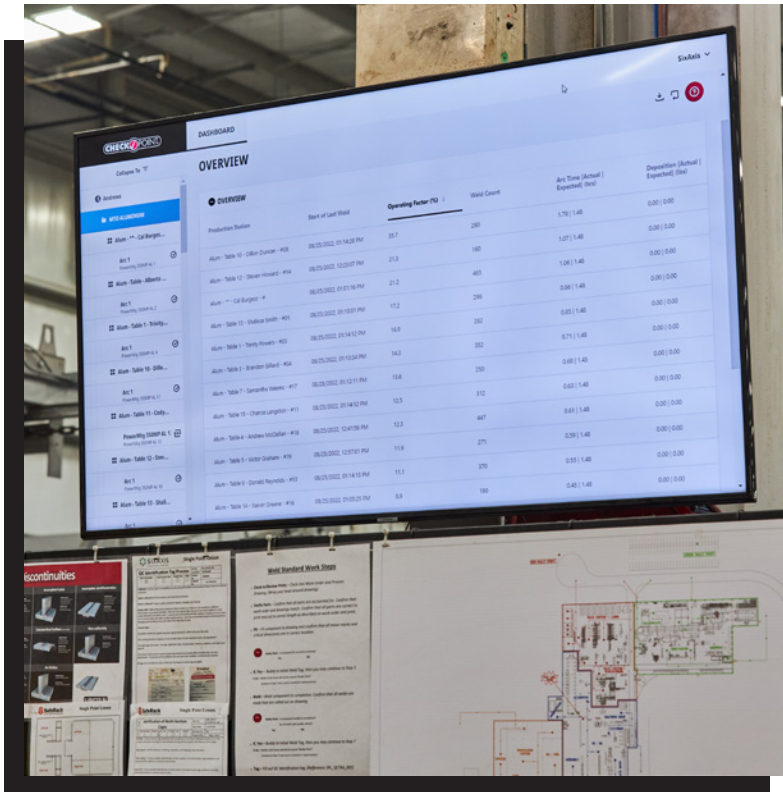
already in use in other parts of their manufacturing process, the operations team understood they needed a reliable, digital solution that would allow them to easily collect, record and monitor their welding data.

“We needed plug-and-play to give us baseline data,” Mersch explained. “That way we could compare ourselves to market benchmarks from a strategic perspective. We didn’t have a clean way to get from here to there.”

After a few discussions with their local Lincoln Electric rep, SafeRack learned about Lincoln Electric’s CheckPoint® Weld Data Monitoring solution and quickly learned it fit all their needs. A cloud-based monitoring system designed specifically for welding operations, CheckPoint allowed SafeRack to automatically track and visualize each welder’s voltage, amperage, wire-feed-speed and arc-on-time for a true picture of overall productivity and operator equipment effectiveness (OEE).

With its powerful prebuilt dashboards and quality reports, CheckPoint provided SafeRack welders and managers a way to visualize essential, real-time weld performance and then produce weekly reports on how each individual welder performed.

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CheckPoint floor display allows operators to see real-time metrics for SafeRacks VIP program.

Making Productivity Count

Now that they found a solution, the operations team needed to figure out how to tie CheckPoint to its new welder-focused incentive program known as the “Top Gun” program. Due to variation in process, materials and fit-up on each weld line, SafeRack focused on using CheckPoint to track each individual welder.

“Similar to OEE, we’re thinking of every welder as a ‘machine’ when we use CheckPoint and look at their uptime and their productivity during each shift as well as their output quality.” Odum said.

By assigning each welder their own CheckPoint profile, management was able to easily track and tie productivity and quality metrics to every welder based on a given benchmark. Using a sliding percentage scale, SafeRack would then take the data from CheckPoint and determine the incremental percentage over the welder’s base rate they would receive as an incentive for a productive, quality workweek. Each week, the reports would refresh and start a new incentive period.

“Welders can control how much they make above their base and whether or not they choose to work during every productive minute,” Odum said. “if they are in their area and welding, and the quality is there, they’re going to make more money.”

To further promote productivity, morale, and spur a little healthy competition, SafeRack has taken advantage of CheckPoint’s real-time dashboards and installed 60” flat screens on both sides of the welding area. In doing so, a welder can walk over, look at the data and see where they stand at any given moment throughout the day. With this knowledge, welders can adjust work to increase productivity, and managers can spot any potential line problems.

“It’s the Hawthorne effect. You’re being watched, so you try harder,” Odum said. “We believe that all good employees want to be measured. They want to know how they stack up against everyone else on the line. Every welder is making the welders on either side of them stronger because of a little healthy competition.”

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SafeRack aluminum welding station

Tracking Quality and Downtime

Beyond productivity, the combination of the incentive program and CheckPoint platform has also made a huge impact on quality within SafeRack's welding operations. With the ability to track each welder, SafeRack can generate a Non-Conformance Report (NCR) when a part doesn't pass a quality check, which in turn ties directly back to a negative impact to their incentive percentage.

"The quality aspect is a big thing for us," said Ridge Alford, SafeRack's Production Manager –MTO Aluminum. "If welders are burning wire all day with no repercussions for making a bad part, they'll just burn wire. Now they must keep quality in mind. It keeps them on their toes and makes them do their buddy checks."

The buddy check system has always been a process in SafeRack's operations. Welders check each other's parts for potential issues before passing to the next production phase. Over time, this activity had become increasingly cursory, yet with the new VIP effort (and the NCR deductions), operators are holding each other more accountable to be diligent in their buddy checks. No one wants to be the cause, or the victim, of an incentive deduction due to a quality issues that was overlooked during buddy check.

Incorporating CheckPoint has also help SafeRack identify necessary welder downtime between welds that were not previously known or considered. With CheckPoint's ability to automatically track and visually graph total arc-on time for each welder, SafeRack managers were able to identify what was causing unavoidable downtime, such as waiting for material, performing fit up, or moving parts to the next phase. This in return helped uncover all aspects of what affects their welding operations productivity, including up-stream and down-stream bottlenecks.

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Real-Time Results

With the VIP and CheckPoint solution fully in operation, SafeRack now collects weld data it needs to make its data-driven performance pay, not just for each operator, but also for the organization as a whole.

Odum says each week he generates two spreadsheets using CheckPoint data. The first spreadsheet goes to payroll and includes the operating factor percentage and formulas set for pay rates for each welder. This includes the base pay and the incentive pay for the particular week.

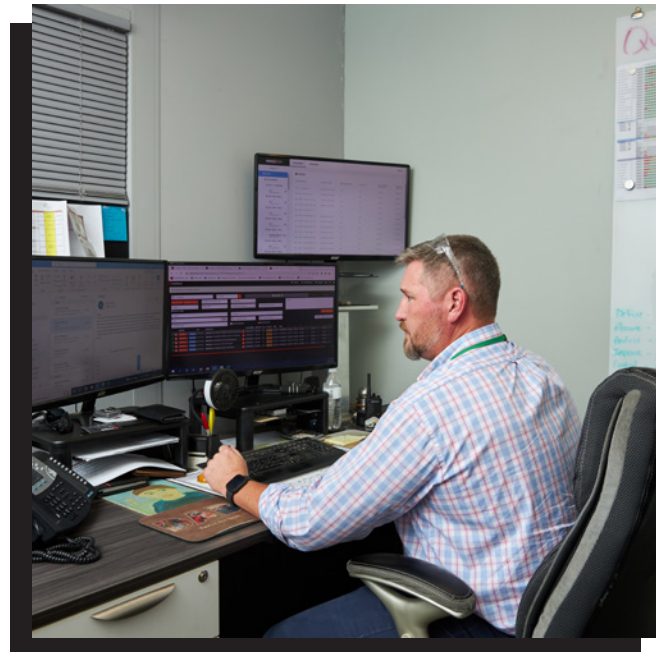
He shares the second one with supervisors. This report shows productivity percentages and NCR data for each welder. Supervisors review this information each week with their teams.

“Using this, we’ve come to understand the production delta between the MTO steel and MTO aluminum sides that ties directly to the additional time required for rigging and movement of the heavier carbon steel parts,” Odum said. “There’s about a 3% difference in operating factors; if an employee on the carbon side is at 10%, aluminum will likely be at 13%.”

“In my area, I’ve seen an increase in productivity,” said Jay Bernard, Production Manager – MTO Steel at SafeRack. “There used to be no real way to accurately measure how productive people were. Now we’re seeing quantifiable data that’s opened our eyes to wastes and inefficiencies in the shop.”

Overall, SafeRack management has discovered they are getting “way more productivity out of the same number of manual fitter welders” while also increasing revenue. The company has grown nearly 45% over the past five years. For example, he said the average number of aluminum welding hours is up 25% in the past 18 months since the company started using CheckPoint.

“It’s like night and day,” Odum said. “I have workers running in the 25-26% range who are adding several more dollars an hour to their base pay. CheckPoint is the single best metric program we’ve launched at SafeRack. I can’t say enough about it.”



Doug Odum. -SafeRack's Director of Manufacturing

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An Employer of Choice

Not only has the CheckPoint-driven VIP program become the buzz on the shop floor, but it's also become the talk of area welding professionals and welding line hopefuls. People who were on the fence about applying now want to be part of the VIP program.

"Our goal was to have a line of people saying, 'I want to be a welder at SafeRack.' It's getting there. We have much higher-quality applicants now, ones who are finding out it's not just a ploy to get them in the door," Odum said. "We're going to do what we said, and word is spreading. This word-of-mouth marketing is helping us more than anything."

A SafeRack recruiter recently attended an industry conference and talked with welding students. Many asked, "Can you make as much money as you're willing to work for?"

The answer is yes. The company pays them for working hard thanks to the new VIP effort.

Company management believes that in comparison to other similar shops, SafeRack gives welders the truest understanding of what they're doing and how well they are doing it. The self-funding aspect of the CheckPoint-driven VIP effort helps welders improve every metric and morale.

"Originally, we didn't know of an easy, cost-effective way to make this happen. Lincoln Electric helped us accelerate this and make the technology work for us," Merschat said. "It has unlocked the inherent capacity that has been trapped under inefficiency. It's helping our business and allowing us to give back to the team. That's important to us."