DOING IT RIGHT.

With VOLVO Construction Equipment

HOW A LONG-TERM PARTNERSHIP IS SPARKING ALL-NEW **AUTOMATION SOLUTIONS**

A Bit About Volvo

Volvo Construction Equipment in Shippensburg, Pennsylvania, and CLOOS go way back. As a heavy equipment manufacturer, Volvo CE produces large components requiring high welding deposition rates in robotic systems capable of optimal weld positioning. Volvo's first CLOOS system, a robotic system that could automatically adjust to weld compactor drums of different lengths and diameters, was purchased in 1998. To put that in perspective, Google was founded in the same year.

The success of that first system kicked off a strong bond between the two manufacturers. Today, Volvo has 12 CLOOS systems in operation at their plant.

> **We've been working together for decades,"** says Nate Alleman, Volvo's head of wheel loader end-to-end flow. **"Because of our relationship with that team, we've switched over all of our robots now completely to CLOOS.**

CLOOS

The Punchlist

The Customer: Volvo Construction Equipment, Shippensburg, PA

The Segment: Construction and Heavy Equipment

The Need: Freeing skilled welders from routine tasks to focus on higher-value work

The Fix: Volvo's custom solution seamlessly integrates four fully automated systems working in concert:

- A "tuning fork" assembly combining support with two axes of articulation for optimal weld access
- A swiveling mechanism that moves components from loading to an enclosed welding cell and back for nonstop material handling
- A robotic welding cell
- Integration with an autonomous mobile robot (AMR) that transports and loads material

The Bottom Line: 33% productivity increase with zero quality compromise – while simultaneously improving workplace ergonomics and reducing material handling waste, creating better working conditions for our entire team.

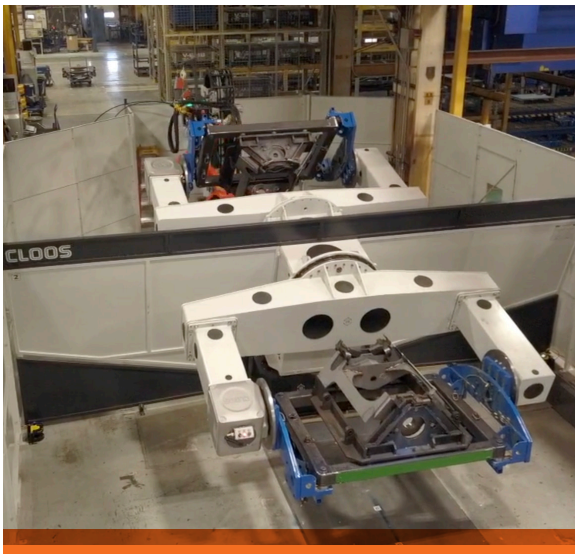
THE CHALLENGE

Volvo developed a deep familiarity with automation over that time, and that's changing how they think about addressing production challenges.

> **"There's times where we're discussing some problem and we'll joke, 'Well, if we could only solve this,'" Alleman says. "And then we stop and think, 'What if we could actually solve that?'"**

Time after time, Volvo has reached out to CLOOS to work together on new solutions to their thorniest problems.

Most recently, Volvo noticed that their skilled workers were spending more time on non-value-added tasks – moving material, hooking it up to a crane, and setting it in a fixture – instead of doing what they do best: complex welds. It was draining time and energy that could have been better spent on more important work.



> "We're probably at least a third faster in this operation than we were before," Alleman says. "We're getting better welds, better reach and locations, so that we have less manual welds afterwards. We're taking that non-value-added work out of having to load and unload those machines, and keeping those welders on the welding task. This gets us one step further in being the best plant we can be."

THE SOLUTION

Working with Volvo and another supplier specializing in autonomous vehicles, CLOOS created a state-of-the-art robotic welding solution where different systems work in concert. It looks something like this:

- An autonomous mobile robot (AMR) independently collects material from a welder's cell, transports it across the production floor, and loads it into another automated cell.
- That cell has one robot—almost resembling a rotisserie or tuning fork—that both supports and articulates the material. That enhanced articulation provides two axes of positioning, enabling access to all six sides of the weld.
- The "tuning fork" system sits on a swiveling mechanism. Once the part is loaded into the fixture, the whole assembly rotates to an enclosed cell where another welding robot finishes the job.
- That rotation reveals a second "tuning fork" on the same assembly, this one holding another component that's just been completed. While the new material is being welded on the other side, the AMR that's been standing by takes the finished component, moves it down the line, and returns to its original position to start the whole process over again.

IMPACT AT A GLANCE

Increased Productivity:
The automated solution has dramatically reduced cycle times, allowing Volvo to meet growing production demands without compromising quality.

Improved Efficiency:
The automated process requires less manual intervention, freeing up skilled welders for more critical tasks.

Stronger Partnership:
The collaboration between CLOOS and Volvo highlights that solving automation problems isn't just about robots – it's about relationships.

The Last Word

> "We've had a good relationship over all those years. We have great respect for CLOOS, for their products, the reliability of their service – everything. Anything we work with them on, we always have great outcomes."

Troy Renninger, Weld Engineer, Volvo Construction Equipment

LET'S TALK SHOP

From pre-engineered systems to fully customized solutions, our product specialists will walk you through the options, answer your questions straight, and help you choose the welding automation that works for you.

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Connect With a CLOOS
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