



Broderson Manufacturing Corporation Finds Game-Changing Innovation at GS Global Resources

Crane manufacturer streamlines industry with 'plug-n-play' approach to cabs

Broderson Manufacturing Corp. CEO Jeff Bust shares in three words why his team selected GS Global Resources.

It's about the "creativity and competence" delivered by GS Global Resources, Bust says.

In fact, since the initial decision to engage GS Global for machine control updates to its RT400 rough terrain crane, Broderson has sent additional projects to the electronic controls and hydraulics systems integrator. These include system design, integration and production support for Broderson's new RT500 rough terrain crane.

The six-year relationship has evolved to the point where Broderson also has hired GS Global to configure their machine operator cabs.

GS Global and Broderson developed an entire control system from the cab through displays, joysticks, sensors and hydraulics. Broderson Engineering Director Eric Slocombe says. "GS Global's unmatched ability to provide a control solution that quickly drops into our machine is a game-changer."

Broderson opened its doors in 1973 and has earned a reputation for producing durable, dependable, and versatile equipment. The Lenexa, Kan.-based company competes with OEMs safely described as global giants.

To remain competitive, Slocombe says, we continuously evolve our approach. From implementation to systems, we're preparing for the next generation of video game kids who are becoming next generation machine operators, he says.

"As our systems evolve and become more involved, we are confident we made the right choice with GS Global Resources," Slocombe says. "What seems complicated to us, GS Global simplifies with great ideas that fit within the value we expect and can afford."

Rather than just issue a Request for Proposal (RFP) to conduct a vendor bid process, Broderson decided to approach finding a systems integrator as an interview process to find a real partner to build a lasting relationship.

"GS Global Resources had the experience and demonstrable data to back up its proposal to deliver supplier-led innovation to our crane company," Slocombe says. "GS Global brings a level of engineering competence and cross-industry experience not possible with in-house engineering staff."

Programmable Machine Solutions Speed Equipment to Market

"We put lots of pressure on GS Global Resources to meet our tight timeline," Slocombe says. "They advised us on ways to achieve what we wanted when we wanted it. "They even worked with all of our vendors along the way, ensuring that our deadlines were met. That's rare".

GS Global Resources team of engineers designed a Configurable Cab Solution that worked to reduced cost, decreased engineering effort and time and streamlined manufacturing. By using standardized, proven smart systems and closely collaborating with the primary functions within Broderson, the entire value chain benefited.

"We worked directly with Broderson and all its suppliers to identify and prevent any issues in the process," says GS Global Resources Engineer Colin Sheard, who serves as the single point of accountability to Broderson. "This saved time and money. The fully tested, tuned and finished cab allows Broderson simply to drop the cab into the machine."

Confidence Delivered

GS Global Resources provided machine design support, tooling and control technology selections that allowed fast functionality testing to meet tight turnaround times.

"The GS Global Resources team has great ideas and high-tech, proven solutions at their fingertips," Slocombe says. "They always ensure we're adding value to the machine by making recommendations about what we do need and, as important, what we don't need."

Broderson provided specifications based on what they wanted to accomplish with their machine. But they allowed GS Global Resources to recommend components and innovative ways to enhance the product and ease assembly.

"The price was not the primary focus but rather on technical solutions to perform what they wanted their machine to achieve for their clients," GS Global Resources' Sheard says. "The controls price is a key point and came in below original expectations."

Broderson's Slocombe agrees and offers why GS Global can deliver more for less.

"Their experience in other industries provided foresight into things we had not even thought of yet," Slocombe says. "GS Global Resources delivered more functionality at less cost."

On the front end of the design process, Slocombe says, GS Global even provided us with the foresight to ensure our product is capable of adding functionality over time.

Broderson took GS Global insights, built the machine, and shipped it to GS Global, which cut down on lead time to fit the solutions to the prototype to get it to market faster.

"This required lots of trusts," Slocombe says. "The GS Global Resources team has earned our trust. Constant communication among our team members helps build that trust."

Service and Accountability

Broderson team members value the ability to interact with a single point of responsibility when working with GS Global. When dealing with various machine interfaces, controls, and vendors within a value chain, confidence in GS Global is imperative.

"Because GS Global works with us to ensure we stay on the value path, Broderson is in a competitive position from a performance and cost perspective," Slocombe says.

Slocombe adds "The GS Global Resources Team has a strong understanding that they are linked to our product success and are committed to ensuring BMC is delivering value to our end users, each and every time "If I'm successful then they will be successful. Everyone's engaged, and it gives us a chance to do something together. That's good for a company."

"It makes you want to work with them," Slocombe says. "We're confident in making mid-stream change with GS Global in our corner versus if we did not have them on our side."

GS Global Resources has always been there, even if it wasn't something we bought from them, Slocomb says.

"I call them about things we don't even buy from GS Global, and they are always willing to share their knowledge on whatever it is," he says.

"There always are challenges along the way on any project," Slocombe concludes. "It's how those problems are solved, how fast, and how well. Those things make all the difference."

Technical Solutions Overview

The Broderson RT-400 provides the low-height "stair step" entry and exit of a "Cab Down Rough Terrain Crane." The RT-400-A's pilot-controlled hydraulic design provides the "feel" and precision of direct mechanical to hydraulic level controls while moving the noise and heat of the control valves outside the cab operator environment.

Specific objectives for the Broderson RT400 goal were carried through by **GS Global Resources System Design, Integrated Hydraulic, Electronic and Software Engineered Solution - ready to plug-and-play** - using GS Global Resources leading engineering minds along with the technologically advanced Parker IQAN Software System.

Single Point of Accountability

GS Global Resources worked directly with Broderson and their suppliers to identify and prevent any issues in the process, "says Colin Sheard with GS Global Resources, saving Broderson time and money. The fully tested, tuned and finished cab allows Broderson to drop the cab into the machine.

Industry: Construction

Product Name: Rough Terrain Crane RT400 and RT500

OEM: Broderson Manufacturing Corp. | Lenexa, KS

Challenge | Project Objective:

- :: Achieve Best-in-Class Fuel Economy
- :: Develop Energy Recovery System
- :: Save horsepower during boom operation
- :: Greater boom control

GS Global Resources Solution:

- :: Control System
- :: Hydraulic System
- :: Software System
- :: Integrated Controls
 - o Plug-and-play
 - o Electronic integrate with OEMs engine
 - HP control, fan, cooling control and safety locks

Results:

- :: Tier 4 compliant
- :: Comfortable arm rest mounted control levers
- :: Spacious, comfortable cab
- :: Programable cab solution
- :: Confidence delivered to meet tight turnaround times, "plug-in-play"
- :: GS Global Resources 3-day on-site training and support
 - o Hydraulic system overview
 - o Machine control system
 - o Machine start-up and troubleshooting
 - o IQANrun

Products and Software Used:

- :: Hydraulic System
 - o Pumps
 - o Priority manifold
 - o Pilot joysticks
 - o Outrigger control valve
 - o Upper control valve
 - o Anti-2 block manifold
- :: Machine Control System
 - o Electronic Foot Pedal
 - o Input / Output modules
 - IQAN MC2
 - IQAN XA2
 - IQAN XS2
 - Eaton mRFRM
 - o Displays
 - IQAN MD4