

TRUE PARTNERSHIPS FOR REAL RESULTS

Driven to Innovate

How one DMG / Mori Seiki USA Qualified Partner decided that if it wanted live tooling done right, it had to do it itself.

Some light-bulb moments produce one-off solutions. Von Ruden's sparked an entirely new revenue stream.

After years of struggling to find sufficient live-tooling solutions for their gear-box manufacturing business, executives at Buffalo, Minn.-based Von Ruden realized that the answer had been right under their noses all along.

"We needed superior rotary tooling that could cut cast iron, produce a good surface finish and last longer," says Brandon Anderson, President of Von Ruden. "All the products we had tried were subpar, and when they needed to be repaired, it would take weeks."

One such wait was the catalyst for a better solution.

"We had a situation in which we couldn't wait that long for the tooling repairs," explains Anderson. "Our guys endeavored to fix it in-house, and we were pleasantly surprised by what we discovered."

As it turned out, Von Ruden had 60 years of experience on the inner workings of live tooling, and more than a few ideas on how to improve upon the current model.

"We've been making gear boxes since 1946, and they have almost the exact same anatomy

as live tooling—the gears, the bearings, the seals," says Anderson. "Almost immediately we knew we could do a better job."

Performance that packs a punch

With this began Von Ruden's successful foray into the manufacture of live tooling—and its path to becoming a DMG / Mori Seiki Qualified Products (QP) partner. The resulting product line was a rare breed—what Anderson describes as performance-driven.

"Precision denotes that something is accurate under lighter loads," Anderson explains. "A very small bearing on a bicycle wheel, for example, could be very precise, but if you have a heavy person on it, it starts to deflect. Our live tooling is precise, but it can also hold its accuracy under heavier loads, for a longer period of time."

This kind of superiority—which, during trials, outperformed the competition two and three times over—required a more niche market, and Von Ruden set out to find one in its own backyard. This search led to a deal with Kennametal, which began distributing Von Ruden live tooling under its name in 2001. But Anderson and his partners wanted more.

"In 2004 we started knocking on doors

ourselves," he says. "Soon after we discovered the opportunity with Mori Seiki."

At the time, Mori Seiki was embarking on a complete redesign on the turrets for its NL line. This opened the door for a partner that could offer improved live tooling—but engineers and executives at the DMG / Mori Seiki Machine Technology Laboratory (MTL) weren't immediately convinced that Von Ruden was it.

"At first MTL was skeptical because we were a small, little-known supplier," says Anderson. "But soon enough, they recognized what made us unique—and why we were a better match for them than competitors 20 times our size."

That something special was four-fold, Anderson says. First, Von Ruden tooling equals the performance and accuracy levels of Mori Seiki machinery—an important requirement in the machine-tool maker's QP review process.

"DMG / Mori Seiki USA has a rigorous qualification program for its QPs," says Anderson. "The outside components that integrate into its machines must parallel the quality of its machines; because if something goes wrong, it's the DMG / Mori Seiki USA reputation on the line."

Besides sheer performance, Von Ruden boasted expertise and opportune geography.

"They saw that we were the only ones with such an extensive background in hydraulics and gear boxes, which is huge," says Anderson. "Plus, we're the only one of our competitors that is based in the United States, and that means significantly faster service and repair times—days, even hours, instead of weeks."

Lastly, its small size ended up working in Von Ruden's favor.

"Our competitors are large, mass-producing overseas companies, so the chance of getting consultation or specialized tooling from them is nil," says Anderson. "We, on the other hand, have the flexibility and knowledge to design specialized products."

This talent comes in handy as a QP, since DMG / Mori Seiki USA expects that its qualified suppliers develop specialized components specifically for its machines.

The perfect recipe

Eventually, Mori Seiki incorporated redesigned turrets with live tooling on several other machines—with help from Von Ruden along the way.

"Our tooling has been on Mori Seiki machines since 2004, and we officially became a QP when the program began around 2008," says Anderson.

Today, Von Ruden live tooling comes standard on some DuraTurn, NL, NT and NZ models. Von Ruden also provides aftermarket tooling customizations for customers that require it.

Getting the company to where it is today required tireless development to find the perfect mechanical balance—and yield more efficient, longer-lasting live tooling.

"Each component of the live tooling setup has an optimal tolerance, position, etc.—but you may have to compromise one to make another work," he says. "It's like mom's best home-cooked dish—after years of tinkering and a little give and take, you've finally got the perfect recipe."

