

## Rethink Robotics' Baxter Drives Efficiency, ROI for Henderson Sewing Automated Solutions

Facing serious competition in a global industry and struggling to find skilled labor for the factory floor, Henderson Sewing Machine Co. turned to automation to help them assist their customers.

With an innovative approach to completely autonomous sewing production systems, the company has turned the industry upside down and shown the value of thinking about automation differently using smart, collaborative robots. Henderson Sewing has implemented Baxter robots into its sewing production systems and begun selling autonomous systems with Baxter to its customers.

By implementing Baxter, Henderson Sewing:

- Is able to sell completely autonomous sewing systems, eliminating the need to find labor for loading and transferring materials
- Cut down response times on custom orders
- Reached its return on investment in one year

### The labor chase is over

Ten years ago, sewing was one of the primary mass production industries that led the chase for low-cost labor around the world. As companies looked for cheap human labor in places like China, Japan and India, the introduction of automation into the industry began to change the game.

Looking at a competitive market, Frank Henderson, president of Henderson Sewing, was a visionary in understanding the importance of automation in the textile and sewing industry. By placing an emphasis on autonomous sewing systems, Henderson helped push the company forward.

As labor rates rose around the globe, Henderson Sewing was already a step ahead of the competition and in prime position to increase its market share. In fact, Henderson Sewing now boasts more than 70 types of sewn products that are being created using automation.

In 2015, Henderson Sewing had created a variety of mostly autonomous sewing systems, but still needed human labor to load and unload parts, and transfer materials between machines. It was this type of low-skilled, repetitive job that was hard to fill, but seemingly impossible to automate.

After seeing Rethink Robotics' Baxter at a trade show, Frank Henderson knew his vision could be realized and purchased two of the robots.

“Finding labor in this industry is extremely challenging, and we saw an opportunity with Baxter to build truly autonomous sewing systems that would help our customers address that issue while maintaining, and even improving, productivity,” said Henderson. “Our customers work with a variety of fabrics and Baxter’s ability to adapt to any part or setting was critical in reaching that goal.”



## The value of variability and flexibility

A 48-year-old family run business in Alabama, Henderson Sewing is one of the largest distributors of industrial sewing machines and custom automated sewing machines in the world. The company works with industries ranging from aerospace and automotive to apparel and safety products providing more than 440 different types of products that are used to manufacture textiles and sewn products.

With dozens of sewing machines and hundreds of different parts and materials to work with, traditional industrial automation was decidedly impractical for the Henderson team.

“We work with so many different parts and stitches that the only way we could introduce automation was if it could work within our environment and handle a wide-variety of parts,” said Frank Henderson. “Baxter’s ability to adapt to variability and switch between tasks and parts with ease has been invaluable.”



Henderson’s customers are looking for custom sewing systems that work on the exact tasks and jobs they need. Henderson’s systems routinely handle stitching, tabs, labels and webbing. Because humans are required to physically transfer essential materials at various manufacturing steps, the process couldn’t be fully automated before. Now, Baxter takes on the task of loading and unloading materials for these systems, freeing those employees to perform more value-added work in other areas of the plant.

“Now we can go to our customers and provide them entirely autonomous systems, which is a major value-add for our services,” said Henderson. “Our customers are using these systems for vastly different sewing production tasks, but Baxter can work with each and every one if needed.”

## The impact

For Henderson Sewing, automation is all about providing solutions that allow its customers to be satisfied with the end product.

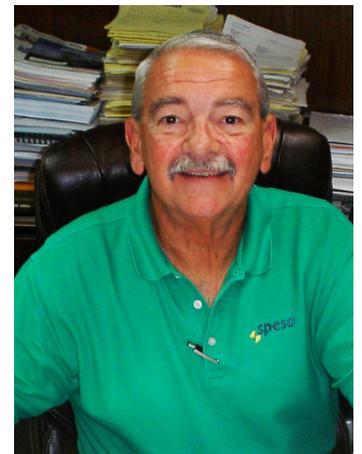
“The return on investment for our customers is critical with any system we provide,” said Henderson. “If we’re offering expensive solutions that don’t deliver an ROI for years, our customers won’t even consider it.”

By implementing Baxter in machine tending tasks as part of an autonomous sewing system, Henderson Sewing has been able to keep costs down and help customers meet ROI in 12-18 months, while producing goods nearer to market. This cuts down on development time, transportation costs and inventory.

“If a company is manufacturing sewn products in Asia, it will take six to nine months for a product to go from design to development,” said Henderson. “If we can provide a solution that allows them to affordably automate that process, it allows far more agility. That response time and speed to market is critical to prevent our customers from choking on their inventory.”

Henderson Sewing’s autonomous systems with Baxter are also driving forward the next generation of textile manufacturing as evidenced by the recent opening of Under Armour’s UA Lighthouse. The new center for innovation is a 35,000 square-foot facility in South Baltimore and will be the proving grounds for developing new, cutting-edge products and efficient manufacturing processes. Henderson Sewing is among several partners that will allow Under Armour to explore new manufacturing technologies.

Henderson Sewing has changed the game and the future of a once struggling industry looks bright again.



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