

# AUTOMATION IN FLEXIBLE MATERIAL CONVERTING – Achieving Consistency, Improving Processes, Growing Wisely



Growth is good.

Whether that's a slow and steady increase in sales, a seasonal spike in demand, or a successful new product launch, growth is obviously more welcome than staying stagnant or slipping back. However, the key to successful growth is planning, having the ability to scale up smoothly and efficiently.

These days, scaling up is most effectively done through the proper use of automation. Labor availability and costs are just too volatile to put trust in, and most OEMs have enough other uncertainties on their minds.

“Automation,” as used here, could include robotics but doesn't necessarily have to, yet it most likely contains process changes. This guide reviews necessary process changes, the wise use of automation throughout flexible material converting, and how to scale up to meet increased demands.

# MEETING 3 KEY ASPECTS OF GROWTH

Ideally, a company has time to put a growth plan in place before it's needed, yet real-world demands don't always cooperate. Whatever your situation, addressing the following three aspects of automation is required to crank up production while maintaining quality.

## Scaling

Any company that's tried it will agree, increasing throughput is no picnic. Scaling up from 1,000 pieces per week to 10,000 is a huge challenge, yet possible. Are you jumping to 100,000 or 1 million? That may sound impossible.

To significantly increase production – and do it properly – is no easy jump. Your initial strategy may be to simply do more of what you're currently doing, which likely means hiring dozens of more people, adding shifts, and/or paying overtime to hand-place flexible material components together. However, that labor-intensive option is expensive, if even possible in this labor market.

The alternative is to scale up using automation. Investing in a long-term solution is an upfront expense, of course, but the eventual and repeated time savings in the product's construction/manufacturing process can be huge.

## Accuracy

Accurately producing 1,000 flexible material pieces using hand placement is entirely possible and practical. However, scaling up to quantities previously mentioned in this guide is an invitation to quality problems, and many high-end products can't afford those issues.

**REAL-WORLD EXAMPLE: Here's some automation accuracy success we recently experienced at Strouse. The customer used a manual jig to help apply an adhesive piece that was difficult to place by hand accurately. We suggested using AccuPlace, an automated solution for accurate adhesive component placement. The customer's engineering team understood the bigger picture: Even though the part would be slightly more expensive to make, the overall process speeds would save 40% in application time. In the end, the increased process speeds significantly outweighed the slight increase in cost per piece.**



# Consistency

A truly quality-driven product must answer all four of these consistency questions:

1. Is the part the exact same size every time?
2. Is the distance between parts consistent? Automation depends on a sensor picking up a part and aligning it with a jig.
3. Is the space consistent on the liner on the x-axis? The part can't be too far from one side of the edge of the liner versus the other.
4. Is the peelability of the liner consistent? The part has to be removed from the liner using a constant force without any fluctuation.



## FROM PRODUCT KNOWLEDGE TO PROCESS EXPERTISE

Deciding to implement automation isn't enough on its own. How a product is being automated is the key. Examine how the component fits into the automation, design it correctly to fit the end purpose, enhance the overall process, save time and money, and maintain quality.

This level of thinking goes far beyond product knowledge. Yet, how does a leader in flexible material adhesives become an authority in automation?

It comes down to being dedicated to the entire process. A holistic approach – looking at what's trying to be accomplished using automation – provides insights for correctly designing the component for automation. Instead of simply peel testing and selecting the right liner, it's creating it with a tab so the liner is easily removed several stages down the automation line.

**REAL-WORLD EXAMPLE II: A manufacturing company invested \$45 million in an automation line ... and it didn't run. One component (a liner) was supposed to peel under the peel plate, and it didn't work in the application. The company had no experience in automation, so they asked 3M, "Who can do this?" and Strouse was recommended. The solution included Strouse explaining all the steps needed for a successful automation line, including field tasks and trials, and properly adjusting the tension systems. When people in the industry need an answer, they often look to Strouse.**





## STROUSE'S PRICELESS COMMITMENT

To be competitive in manufacturing in America today, you have to do something that sets you apart. Chasing the lowest price means you're not prioritizing quality, and it won't result in you standing out.

An OEM production department's biggest fan is a partner that thinks differently and can solve problems. The "uncommon converter" digs deeper and thinks broader, taking a big picture approach to solving problems and not simply taking orders. That applies to flexible material converting as well as automation.

Strouse's advantage is its commitment to consistency, and automation certainly helps make that a strength. From parts that are 2 feet X 2 feet down to 10 millimeters X 10 millimeters with a tab, we've successfully completed hundreds of automation applications across numerous industries, supplying more than 5 billion total components. [Contact the adhesive experts at Strouse.](#)