

# The Show Must Go On for Contech

Converting OEM cuts programming time using Rockwell Automation solution, designs new machine in record time for trade show

## Solution

Connected Components Core Technologies provides sophisticated and affordable control in a lower cost, integrated solution

- Allen-Bradley MicroLogix programmable logic controller (PLC) for speed and indexing length control
- Allen-Bradley PowerFlex 40 variable frequency drives for precise motor control
- Allen-Bradley PanelView Component human-machine interface (HMI) for easier machine operation

Connected Components Building Blocks design tool helps engineers easily and quickly implement common machine control tasks

- Design drawings
- Prewritten software codes
- Predeveloped HMI screens and programs
- Preconfigured drive-parameter files

## Results

Reduced time-to-market

- Lowered PLC programming time by 30 percent and drive programming time by 50 percent
- Improved time to market by more than 75 percent
- Saved 60 percent on the machine's drives solution



Slitter/rewinder equipment from Contech leverages Connected Component core technologies from Rockwell Automation.

## Background

Kansas-based Contech is a machinery builder with 30 years of experience in the converting equipment industry. But the company actually began business in the early 1960s, not as an equipment manufacturer, but as a producer of vinyl decals and graphic markings. As customer needs grew increasingly complex over the years, Contech engineers developed methods and technologies that required specialized equipment not available at the time. As a company that has always been attuned to customer needs, Contech began developing converting machinery to meet its customers' needs, and has continued meeting these needs with state-of-the-art designs for the last three decades.

Manufacturers in a wide array of industries – from paper makers and labeling companies, to businesses as specific as medical machine builders – use Contech's slitter/rewinder equipment to unwind and slit large rolls of paper, plastic or vinyl material, and rewind them into smaller rolls for a specific manufacturing or commercial use. Contech prides itself on developing the right solution for each company it serves. As Max Ogden, vice president of sales for Contech, puts it, "Customers often come to us with a vision. They know what they need but rely on our expertise in converting machinery to design it for them."

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THINK.  
SOLVE.™

## Challenge

In recent years, Contech engineers and sales personnel have had several of their converting customers ask for a mid-range slitter/rewinder machine. Whereas many higher-end and more expensive machines deliver production rates upwards of 2000 feet per minute, many manufacturers simply do not need that high of a production rate, and are seeking a midrange, stand-alone solution capable of around 600 to 750 feet per minute, with an appropriate midrange price to match it.

Contech engineers, loyal to the company's history of delivering what the market needs, decided to design and build a suitable solution for this growing market. The only problem was timing. It was 10 days before the biannual Converting Machinery Materials (CMM) International trade show in Illinois when Wescott was assigned to design the control and electrical configuration on the mid-range machine. Contech wanted to present the new machine at CMM International, knowing that many converting companies would be in attendance looking specifically for such a solution. Unfortunately, it typically took Contech three to four weeks to design the control and electrical systems on a standard slitter/rewinder.

As with any Contech machine, high-quality and low cost were at the forefront of controls engineer Mike Wescott's goals for the final project – and now, so was record delivery time.

## Solutions

Wescott turned to Rockwell Automation for help. Contech engineers have been using Allen-Bradley® controllers from Rockwell Automation almost exclusively on their machines for nearly a decade. They, like their customers, have a strong familiarity with Allen-Bradley controllers. In fact, most customers require that Contech's machinery be controlled by

an Allen-Bradley controller to avoid the need for training on a solution they aren't as familiar with.

Wescott and his Rockwell Automation consultant decided to leverage the automation supplier's Connected Components program. Connected Components are ideally suited for stand-alone machines, providing control that is both sophisticated and affordable. The overall solution is built around an Allen-Bradley MicroLogix™ programmable logic controller (PLC) for speed and index length control, Allen-Bradley PowerFlex® variable frequency drives for precise motor control, and the Allen-Bradley PanelView™ Component human-machine interface (HMI) for more simplified operation.

After ordering the parts needed, Wescott had one week to get the machine configured, wired, programmed and operational for the show. He used the Connected Components Building Blocks (CCBB) to more easily and quickly implement common control tasks as part of the machine design. Because the three core components are designed to integrate and communicate seamlessly together, Rockwell Automation provided just one start-up guide for all three, instead of a separate set of instructions for each piece of equipment. According to Wescott, "it was the simple starting point I needed to get the ball rolling on this machine quickly."

The CCBB DVD also includes tools, such as design drawings, pre-developed HMI screens, application code and drive parameter files that Wescott was able to apply to the core Connected Components products.

First, Wescott leveraged the pre-written software code for the MicroLogix PLC and modified them to meet the precise needs of the slitter/rewinder. He applied position control codes to create the right indexing length, and integrated position control with alarm control into one program for easier operation by the end user.

He also used pre-written HMI programs to make setting up the operator interface easier and faster, and pre-configured drive-parameter files to cut down the time and effort typically required for implementing speed-control tasks.

## Results

Leveraging the programming shortcuts provided by the CCBB helped Contech greatly reduce the time it would have taken to configure and program the new slitter/rewinder. Specifically, Wescott and his team cut programming time on the PLC by 30 percent, and cut programming time on the drives by more than 50 percent. This helped the team cut the time it typically required for designing and developing a slitter/rewinder from approximately nine weeks, down to just two weeks.

"The Connected Components Building Blocks saved us a remarkable amount of work, and helped us deliver a brand new machine in record time," said Wescott. "And because the solution will be repeatable on future projects, we will be able to get similar projects to market much faster than we ever have before."

Beyond time savings, the CCBB helped Contech engineers lower the total cost of the machine, as well. For example, using the product selection guides, Wescott identified a new drives solution – swapping the PowerFlex 70 variable frequency drives for the PowerFlex 40 drives – that could deliver the level of performance he was looking for at a much lower cost than the drives that Contech engineers had been using on other machinery. In the end, the CCBB helped save approximately 60 percent on the cost of the drives solution alone. Ultimately, Wescott's team delivered a slitter/rewinder machine to CMM International that cost about 50 percent less than a typical high-speed slitter/rewinder available on the market today.

*The results mentioned above are specific to Contech's use of Rockwell Automation products and services in conjunction with other products. Specific results may vary for other customers.*

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