

**feature**

# **Cardinal Tissue Takes Flight with Help from Fabio Perini Constellation™ S6**







Cardinal Tissue founder Vince Reese initiated a bold partnership with Fabio Perini North America.

**Vince Reese envisioned founding** a company that was equal parts trusted tissue industry resource and versatile retail tissue contract manufacturer capable of supporting a wide range of tissue converting needs. As tissue manufacturing gained momentum for Tier 1 producers in the southeastern United States, opportunities arose for Reese to realize his goals. In 2017, he headquartered start-up Cardinal Tissue in Spindale, North Carolina.

As with any start-up, slim budgets translated to certain limitations for Cardinal Tissue. “We had less technical resources compared to more mature organizations,” Reese noted. “It could be viewed as a detriment. I saw it as a chance to partner with a technology-focused equipment manufacturer that shared a similar philosophy about advancing the tissue industry and its products.”

A veteran of the tissue industry, Reese was well aware of innovators Fabio Perini and Körber Tissue and their commitment to using Industry 4.0 to shape the future of tissue composition, design, engineering, and manufacturing. He approached Fabio Perini North America (FPNA) with a somewhat unorthodox proposal—help

with procuring future-focused equipment for the Cardinal Tissue production line in exchange for the data and insights the technology would provide.

“It was bold, but necessary,” Reese explained. “I am deeply committed to facilitating the success of large tissue manufacturers. This was a way for Cardinal Tissue to be an incubator of sorts—working with a leader like Fabio Perini to capture data and transfer learnings into equipment and technologies that add converting capacity and improve OEE. That’s a win for everyone.”

Despite the start-up status of Cardinal Tissue, Fabio Perini executives agreed to bring Cardinal Tissue on board. “We saw partnering into the future with Vince and his team as mutually beneficial,” said FPNA President Pete Augustine. “The insights are invaluable. We can dig into the real costs of product manufacturing, for example, and better understand what solutions we can bring to market to lower those costs. The Cardinal Tissue line provides tangible results in a real-world production environment. It’s proof we can point to within our teams, when pursuing customers, and in service to the tissue industry at large.”

### **CONSTELLATION™ S6: THE STARS ALIGN FOR CARDINAL TISSUE**

Cardinal Tissue runs the Constellation™ S6, a state-of-the-art production line that encompasses every aspect of manufacturing the estimated 2.4 million cases of product capacity that Cardinal Tissue runs annually. To optimize OEE and operator safety, the line is equipped with some of the most cutting-edge technologies available in the industry—Catalyst embosser (safe and quick automatic steel roll changes); the 179AX log saw (fast and automatic blade replacement in total safety); Carbon-T wrapper (pack width and length changes without operator intervention), and self-adjusting machine (SAM) technology.

The revolutionary Constellation™ 4-roll rewinding process by Fabio Perini offers improved roll control and exceptional winding due to the introduction of first three, then four roller surfaces in the rewinding cycle to weight-support and control logs. There are simply fewer parameters for machine operators to monitor or adjust as compared to 3-roll rewinders. Further, the availability of up to five driving surfaces (with Punzoncini technology) ensures low-torque/low-pressure winding





The S6 can “digest” all paper grades and still give a perfect wind.

and nearly perfect, uniform roll profiles from beginning to end, which dramatically enhances product quality and fiber efficiency.

“Recent feedback from Constellation customers reflects the positive impact of the transition—almost 100 percent report being highly satisfied with product quality. Plus, more than 100 lines have been sold worldwide since the technology’s launch in 2015,” commented Claudio Munoz, Fabio Perini Marketing Director—Americas.

In addition, Reese saw a need and opportunity for palletizing. Langhammer, Fabio Perini’s sister company under parent Körber Group, accommodated with an articulated arm robot palletizer that saves space and gently handles the product.

Having access to best-in-class solutions all under one roof wasn’t the only thing that reinforced Reese’s confidence in the partnership. The self-adjusting machine (SAM) technology of the Constellation™ S6 makes the

Cardinal Tissue line the only one in the world with these capabilities. “We can now immediately pursue all segments of tissue from ultra-premium to economy,” Reese explained. “We can handle any of the substrates with this technology and it allows us to have access to any market right off the bat.”

What Reese didn’t anticipate, however, was how instrumental this versatility would become. The coronavirus pandemic set toilet tissue demand on an unprecedented and unanticipated trajectory. Without the Constellation™ S6 and FPNA support, Cardinal Tissue would not have been positioned to meet the need.

Since virus-related lockdowns forced people to stay home, away-from-home applications for tissue products—such as in schools, hotels, and restaurants—decreased substantially. Conversely, the demand for retail production jumped as much as 30-40 percent. As a result, Cardinal Tissue commonly filled five to six semis in 24-hour cycles with a total of 250,000 to 300,000 toilet tissue rolls.

Further, getting the private label Cardinal Tissue brand toilet tissue to market and positioned as comparable to well-known brands would not have been possible. According to Reese, “The S6 is all about the perfect wind because it can digest all types of paper grades. We found we can use less expensive substrates and get quality levels equal to or better than established manufacturers.”

### THE ELEMENTS OF SUCCESS

Product quality and consistency are the results of equipment that is flexible and reliable.

The emerging technology of the Constellation™ S6 provides opportunities to build upon a self-regulating machine. It extends the life cycle of the technology and machine, potentially reducing the amount of future capital investments for tissue manufacturers. This was particularly attractive to a start-up like Cardinal Tissue as it meant getting to capacity quickly to accept and build business.

“Cardinal Tissue did not have an unlimited budget,” explained Munoz. “Vince was extremely mindful of making equipment decisions that were practical, but still aligned with his goals. Given the versatility of its technology and configurations, the S6 quickly rose to the top of the list as an investment with short- and long-term gains.”

Reliability also factored into the decision. Getting a machine up and running—and

keeping it that way—is essential for any tissue converter, but especially for start-ups. Downtime and maintenance can quickly erode profitability, but fewer manufacturers consider the expense of inventorying spare parts to alleviate the larger concerns.

With fewer required spare parts and easy access to the Fabio Perini Spare Parts web-shop, the Constellation™ S6 won favor with Cardinal Tissue in this area, too. “We lacked deep technical expertise on the Cardinal team. However, our partnership with Fabio Perini and the Körber Group gave us every confidence about machine reliability,” said Reese. “We knew we wouldn’t have to worry about stretching our budget to house spare parts or diminished OEE.”

This confidence evidences itself in Cardinal Tissue’s expansion plans. Purchase of a second Constellation S6 line dedicated primarily to bath frees up the original S6 line for towels. The addition of two napkin lines and one high-speed facial line will give Cardinal Tissue traction in all tissue categories and the ability to efficiently service customers on multiple levels.

“It’s exciting to see the possibilities of Cardinal Tissue coming to fruition, and being

part of it,” commented Augustine. “Mutually beneficial partnerships like this are a big part of the future of the tissue industry.”

### PAYING IT FORWARD

True to his commitment to advancing the tissue industry, Reese doesn’t view his investment in the Constellation™ S6 and partnership with Fabio Perini and the Körber Group as narrowly beneficial to Cardinal Tissue. Rather, he sees them as tools to reverse current industry trends that are hampering tissue manufacturing success—particularly as it relates to the shortage of skilled operators.

“Technology is geared toward simplifying life in so many areas. Tissue manufacturing is no exception,” said Reese. “The S6 and so many other Fabio Perini equipment options are minimally dependent on operator interaction to perform properly. That wasn’t always the case in this industry. The shift gives us opportunities to better utilize less-experienced workers sooner.”


To round out the workforce, Cardinal Tissue has also undertaken some apprenticeship initiatives in conjunction with an area community college. The curriculum focuses on teamwork, good communication,

critical problem-solving, and machine learning skill sets that attract students, serve current operators, and strengthen the tissue industry workforce.

### REDEFINING THE FUTURE

The future of the tissue industry is ripe for change. Technology, by nature, isn’t stagnant, so process improvements are inevitable as data-centric decisions are integrated into equipment design and production practices.

To that end, chance met opportunity when Cardinal Tissue partnered with Fabio Perini and the Körber Group. Cardinal Tissue was validated and solidified as an innovative tissue manufacturer and industry advocate, but Reese defines the partnership as much more.

“As a team, we reach beyond technology,” he said. “The insights, knowledge, and support we share reflect a cultural alignment that spurs positive change and action in the tissue industry. Our shared passion for excellence keeps us working toward a common goal: leveraging new insights into what needs to happen operationally and within a machine to continue to have the best output. It boils down to finding a better way to make tissue. Period.” 

## Is This Your Customer? It Should Be.



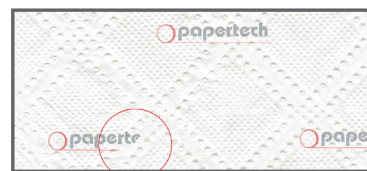
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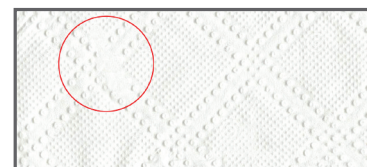
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The logo features the word "TAPPI" in a green sans-serif font, with a green swoosh underline. Below it, "TISSUE" is in a large black sans-serif font, and "360°" is in a large green sans-serif font.

# TAPPI TISSUE 360°

FALL/WINTER 2020 VOL. 9 NO. 2

TAPPI | PIMA

AROUND THE INDUSTRY, AROUND THE WORLD

The background image shows the interior of a paper mill. Large, horizontal pipes are visible, with steam or mist rising from them. In the upper right, a green drone is suspended within a protective wire cage. The overall scene is industrial and somewhat hazy.

## DRONES Keeping Mills Safe and Clean

### ALSO:

- Coronavirus to Alter Global Toilet Paper & Tissue Production
- Cardinal Tissue Takes Flight with Help From Fabio Perini Constellation™ S6
- The Foundations Securing Tissue's Future
- The Birth of a Tissue Mill
- Innovative Solutions for Tissue Production