Corrugated TODAY
THE BI-MONTHLY PUBLICATION FOR AMERICAN AND CANADIAN INTEGRATED AND INDEPENDENT BOX MAKERS
JANUARY/FEBRUARY 2021

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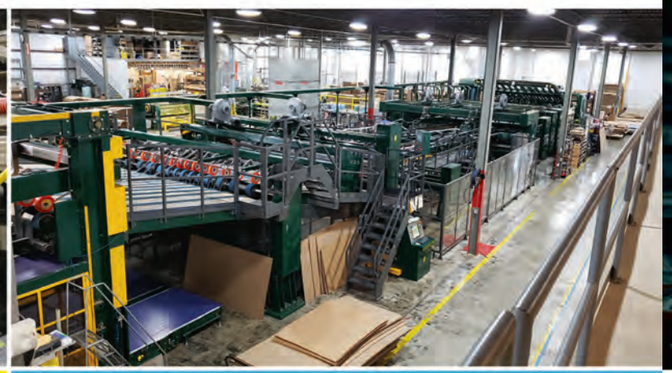

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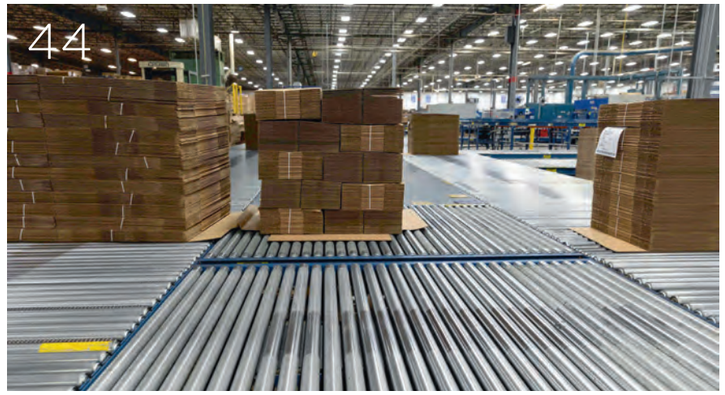

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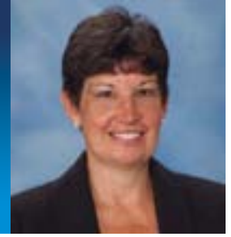
editor's comment

Jackie Schultz



WELCOME, WELCOME 2021

Immediately after Thanksgiving one of my neighbors placed this sign in his front yard: "2020 - STINK, STANK, STUNK!" Next to it was a giant inflatable Grinch. Touché!

If someone had told me a year ago that the world would be in the grips of a global pandemic for most of 2020, and spilling over into 2021, I would have questioned their mental health. But the reality is this, as of Dec. 10, 218 countries reported nearly 70 million COVID-19 cases and 1.5 million deaths. While this is very sad, it serves no useful purpose to whine and wallow in self-pity, nostalgic for in-person sporting events, concerts and shows. Instead, we should be focused on persevering and celebrating the extraordinary hurdles we have overcome in the face of unprecedented challenges. Many of those triumphs could not have been possible without corrugated packaging.

Throughout the global pandemic, packaging, especially boxes, provided a lifeline for consumers who needed essential supplies. My parents are perfect examples. My mom, who has severe asthma, hasn't been in a store since March. She loves to shop but she acknowledges her vulnerability to a virus that attacks the respiratory system. My brothers and sister and I bought her an iPad and introduced her to Google and Amazon Prime, much to my dad's dismay. If not for the pandemic, she probably would never have embraced computer technology or discovered an appreciation for packaging, finally understanding why I make such a fuss about corrugated boxes.

Many of my friends and neighbors are now ordering all of their household supplies, including groceries, online and having them delivered to their doorstep. When my husband and I go for our daily walks around the neighborhood we marvel at the number of boxes piled high on front porches, especially during the month of December.

Three Billion Packages

An article in *The New York Times* estimated that three billion packages would be shipped during the holiday season, about 800 million more than in 2019. Amazon reported that its 2020 holiday shopping sales were the biggest in history, with independent businesses selling on Amazon surpassing $4.8 billion in worldwide sales, up 60% from 2019. By early December, 71,000 small and medium-sized businesses had seen holiday sales of more than $100,000. Meanwhile, in-store traffic fell by more than 50% compared to 2019.

I for one can attest to doing most of my holiday shopping online. It was quite interesting to see the differences between retailers' online ordering systems. Some stores had significant backlogs and let me know immediately while others never notified me, leaving me to figure out why one of my relatives never received a gift. The latter experience happened more than once and was quite annoying.

If companies learned anything from this global pandemic, it is that customer service wins the day. Regardless of whether you sell books or boxes or whatever, customers want regular communication about their order status. Companies that have figured this out will survive and thrive well after the pandemic. As the *Times* pointed out, "If more retailers falter this holiday, that only strengthens Amazon's dominance."

The million dollar question is, 'What awaits us after the pandemic?' There are several articles in this issue that attempt to answer that. Many industry leaders are confident that e-commerce will remain strong, driving corrugated shipments to unprecedented levels, and that life will resume some normalcy in 2021. It is my hope that we will be able to give Zoom and on-line retail a break and do everything that we were accustomed to before March 2020. Wishing you a healthy and prosperous New Year. ■

Feel free to contact me with story ideas, comments or suggestions.
I can be reached at 440-356-2257 or e-mail jschultz@corrugatedtoday.com

FAREWELL 2020, HELLO 2021!

AS WE BEGIN A NEW YEAR, CORRUGATED TODAY HAS ONCE AGAIN INVITED THE HEADS OF INDUSTRY ASSOCIATIONS TO SHARE THEIR THOUGHTS ABOUT TRENDS, OPPORTUNITIES AND CHALLENGES.

Brandon Bennett
Chairman
World Containerboard Organization (WCO)

As Chairman of the World Containerboard Organization (WCO), I am pleased to present a report on the macroeconomic environment of the containerboard industry.

The global economy faced unexpected challenges in 2020 that have impacted employment and product demand, as well as introduced numerous supply chain challenges. Efforts to manage the COVID-19 pandemic have caused businesses to close and left parts of the global population on lockdown. The pandemic created simultaneous disruptions to supply and demand in our globally interconnected world. In addition, a historic number of hurricanes in the Atlantic caused business disruptions and personal hardships in the U.S., Central America and the Caribbean.

We have seen that consumers across the globe are increasingly open to changing how they buy products, leading to a strong acceleration of e-commerce shipments and other home-delivery services. The consumer goods industry is adapting to this change that creates both disruption and opportunity for our industry (e.g., increased corrugated packaging for e-commerce shipments). We need to embrace these changes and adjust to meet evolving needs as we continue to create value for our customers through sustainable packaging products.

We have reason to be optimistic about the coming year as several major economies are seeing varying levels of recovery and multiple COVID-19 vaccines are expected to be available in the coming months.

Worldwide containerboard production grew in the third quarter of 2020 (2.3% in Q3, after gains of 1.3% in Q2 and 4.5% in Q1). These figures confirm the positive trend noted in most of the geographic areas during the first half of 2020. The increase in the third quarter is mainly due to the production of recycled paper, while the production of virgin-based fibers lost momentum during the summer months, down 1.2%.

North America

Economic activity and employment have shown signs of recovery but remain well below pre-COVID levels. Beyond the pandemic and hurricanes, record setting forest fires in the U.S. also disrupted business and personal lives in the western states.

Despite the economic volatility of 2020, the U.S. economy stands on relatively firm ground, with GDP growth expected to continue at its long-run trend of 2%. Factors influencing economic growth include slightly softer but still solid consumption and job growth trends, weakening business investment, an increase in residential investment, and continued monetary easing.

At the end of November, the U.S. economy is balancing the predicted surge in COVID-19 with optimism for vaccine development. As with the rest of the world, production and widespread distribution of a vaccine will likely take months, meaning the coronavirus will be a significant factor in the economy for some time. It is still too early to estimate how the presidential election and ensuing senate run-offs may affect the economy.

In the first half of 2020 North America saw an increase in recycled paper production (5.1%), while on the other hand the production of virgin-based papers declined by 1.4%. The American Forest & Paper Association (AF&PA) October U.S. Containerboard Statistics Report showed U.S. containerboard production increasing by 3% compared to October 2019. Production was up 3.8% when compared to the same 10 months of 2019, according to the report. October 2020 production of containerboard for export decreased 13.4% compared to the same month last year; but was up 15% year-to-date. The containerboard operating rate was 98.1%, up 3.6% from October 2019 and up 2.8% year-to-date. Mill inventories of containerboard at the end of October decreased 6000 short tons from the previous month and were up 42,000 short tons compared to October 2019.

North America is expected to remain a major exporter of virgin containerboard grades to global destinations, including Central America, Asia and Western Europe. Exports had been growing by about 3.5% over the last several years but slowed in 2019 as global demand softened in the wake of trade uncertainties and economic softness. At the beginning of 2020, Europe accounted for approximately 15% of total North American exports for kraft liner brown unbleached (and Spain and Italy accounted for nearly 45%). The trend towards lighter containerboard products continues but shows signs of losing momentum.

South America

The Economic Commission for Latin America and the Caribbean (ECLAC) reports that the pandemic will significantly impact the region's economy with a predicted contraction of 9.1%. Forecasts for 2020 predict 2.7 million businesses will close, unemployment will rise to 13.5% and poverty will reach 37.7% of the population, translating to a 10-year setback for the region. Brazil and Mexico are expected to lead Latin America in recovery.

Brazil continues to be the major containerboard producer in the region with deliveries of containerboard year-to-date (nine months) increasing by 1.7%. Recycled containerboard (RCCM) is down 1% while kraft liner and semi chemical medium increased by 5.6% during the first nine months of 2020.

New participants from the international packaging industry are setting up operations in Latin America, due primarily to the high demand for packaging in the region. In Brazil, industry participants have publicly announced that they are increasing their operations by expanding production plants or through acquisitions. Over 1 million new tons of publicly announced Brazilian capacity is scheduled to come online between 2019 and 2023, with additional publicly announced projects in Mexico.

Moderate growth rates for containerboard demand are expected in the region, reflecting the economic development in most Central and South American countries.

Asia

Recovery across the entire Asia and Pacific region is happening at a varied pace. Economic activity in the region is expected to contract by 2.2% in 2020, due to a sharper-than-expected downturn in some emerging markets, with expected growth of 6.9% in 2021. Headwinds from prolonged policy uncertainty, distortionary trade measures and growth deceleration in the economies of important trading partners are dampening economic growth in Asia and the Pacific. The recovery outlook varies by country depending on COVID infection rates and containment measures, the scale and effectiveness of the policy response, reliance on contact-intensive activities, and reliance on external demand.

China

Following an early peak infection rate, China has begun an orderly resumption of work and production, while taking steps to prevent a domestic relapse in infections or imported cases.

China recently confirmed its policy to ban import of solid waste at the end of 2020, including recovered paper. In the first five months of 2020, recovered paper imports decreased to 2.4 million metric tons, down 44% compared to the same period in 2019.

China's stricter environmental policies stimulate the transformation of the containerboard industry, which in turn is leading to industry consolidation. Stricter recovered paper policies result in widening cost disadvantages for smaller containerboard producers and could lead to closures. Public reports note the largest containerboard producers received the largest quotas for recovered paper in 2020, increasing their share of total capacity.

The import of recycled pulp is a new alternative to recovered paper. In 2018, the Chinese customs authority registered imports of 300,000 metric tons, in 2019 the volume grew to 920,000 metric tons and in the first five months of 2020, 720,000 metric tons of recycled pulp reached the country.

As a result of the rapid development of e-commerce, China imported 1.56 million tons of corrugated base paper and 2.2 million tons of containerboard in 2019.

Japan

The Japanese economy, the third largest in the world, grew by 5% in Q3 2020, rebounding from a second-quarter decrease of 7.9% (after a 0.6% reduction in Q1). Business sentiment in Japan is recovering slower than expected, underscoring that it will take time to recover from the impact of the pandemic. GDP growth of 2.3% is expected for 2021.

The Japan paper packaging market is estimated to grow at a CAGR of about 6% from 2020 to 2025. Use of corrugated board packaging boxes is expected to remain very strong in the region, owing to its biodegradable and non-toxic properties along with its light weight and durability. China is the most important export market for Japan's corrugated medium. In the first five months of 2020, Japan's corrugated base paper exports to China reached 87,000 tons, six times more than the same period last year, accounting for 30% of total exports.

Europe

The economic impact of the pandemic has differed widely across Europe and the same is true of anticipated recovery. This reflects the spread of the virus, the public health measures taken, the sectoral composition of national economies and the strength of national policy responses.

The Autumn 2020 Economic Forecast projects that the European economy will contract by 7.8% in 2020 before growing 4.2% in 2021 and 3% in 2022. Compared to the Summer 2020 Economic Forecast, growth projections for Europe are slightly higher for 2020 and lower for 2021. Output in the region is not expected to recover its pre-pandemic level in 2022.

In Europe, the demand for containerboard in 2020 has been less affected by the pandemic than expected. While containerboard demand saw a decrease of 3.6% in Q2, Q3 returned to a growth of 0.9%. With a boost from a good first quarter, year-to-date results show an increase of 0.9%. A slight increase of 1% is expected for the full year. The recovery, however, is banking on another wave of the pandemic not stalling the economy. The utilization rate is expected to decrease with new capacity coming in the next few years.

Through all these challenges, we have seen employees across our industry continue to work and provide containerboard products to keep essential supply chains open for delivery of food, medicine and other essential supplies. I would like to thank our employees for their dedication and commitment to working safely. Wishing all the best in 2021.

Unless otherwise indicated, all economic projections and statistics in this article are based on economic data from IMF, government organizations, and/or industry statistics from CEPI ContainerBoard and WCO partner associations.

Dennis Colley
President
International Corrugated Case Association (ICCA)

The International Corrugated Case Association (ICCA) was formed in 1961 to promote and protect the general welfare of the worldwide corrugated packaging industry. ICCA is comprised of 10 national and regional corrugated packaging trade associations and 22 of the industry's largest companies known as ICCA Leadership Companies. Collectively, ICCA represents almost 60% of global corrugated box manufacturers, with China being the main country not included. Though languages, cultures and customs are different worldwide, there are several issues and opportunities these regions have in common. From Sam Chen in Taiwan to Vincent Mathias in India, to Jean-Paul Macharis in Europe and John Kelley in the USA, ICCA members all agree there are four important challenges facing the industry in 2021:

- The pandemic is having a global impact. Governments have taken immediate mitigation actions that have changed our daily lives. Working from home is now the norm and folks are adapting to a new work/home life balance. This puts a strain on families with children staying home from school and makes it difficult for workers to be in plants when quarantines become necessary. With the corrugated market growing at 2% plus globally, being able to supply boxes to segments of the industry in demand along with the pandemic could be a challenge. Converting plants have had to modify schedules and add temporary workers to keep the production lines running. Until vaccines are distributed to millions of workers to reduce the threat of the disease, worker shortages will continue to beset the plants in 2021.
- E-commerce has accelerated across many regions of the world. Many consumers now find online shopping is a necessity to receiving food and other items and they are finding the experience to be easy and safe. Many will not go back to in-store purchases once the crisis is over. Analysts project e-commerce will continue to grow at double-digit rates for the foreseeable future. The corrugated industry is benefitting from this demand boost and converting plants around the world are experiencing extremely high operating rates. Converting capacity is available, but the workforce could become a limiting factor.
- Governments' and brand owners' desire to replace single-use plastics remains a high priority. Many companies have set 2025 target dates to replace single-use plastics with packaging that is recycled or composted. It is no longer acceptable to threaten our oceans and wildlife with packaging that lasts for hundreds of years. Packaging companies are developing innovative boxboard and corrugated solutions as alternatives to plastics. The corrugated industry has a moment in time to be a leader in innovations and become the package of choice for brand owners and consumer packaged goods manufacturers. Thanks to those

companies that have already stepped up and introduced paper-based boxes, trays, displays, pouches and envelopes to replace single-use plastic containers.

- Forestry plays an essential role in reducing greenhouse gas emissions and absorbing C02 from the atmosphere. Under the direction of the United Nations Strategic Plan for Forests (UNSPF), six strategic initiatives have been developed to conserve and sustainably manage forests across the globe by 2030. The impact of these initiatives will increase the 30% land mass covered by forests and provide more jobs and a better environment for the 1.6 billion people that depend on forests for their livelihood. Since corrugated boxes are made from the cellulosic fibers of trees, the corrugated industry has an opportunity to be a partner in these initiatives and promote the plan's success. The industry has a raw material that is renewable and a utilization rate of over 80% globally. Some regions of the world are the source of new fibers, while other regions depend heavily on recycled fibers as their raw material. It is this balance of new and used fiber that makes this industry great.

Corrugated boxes are essential to the lives of humans across the globe. Their unique properties and ease of recycling have made them the most-used packaging solution. Whether you are growing produce in the Mediterranean region, shipping seafood from Scandinavian countries, processing meat from New Zealand or shipping electronics from East to West, corrugated boxes provide a safe and cushioned substrate for product protection, a strong container for shipping, a tremendous billboard for advertising and an overall cost-effective packaging solution. Perhaps the greatest attribute is the ability for fibers to be used again and again, making corrugated packaging a powerful example of the circular economy. Please join me in saluting the "hero" of global commerce. Corrugated boxes are essential to global supply chain distribution and the global economy. It is a great time to be in the corrugated industry. Thanks to the millions of employees globally that make this industry renewable, recyclable, reusable and responsible.

Corrugated boxes are essential to global supply chain distribution and the global economy.

Mike D'Angelo
President
AICC, The Independent Packaging Association

A local wag here in Alexandria, Va., has likened the Covid-19 experience to a Greek tragedy in that there is a beginning, a middle and an end. The industry acquitted itself so well in the beginning. AICC members figured out what the new business model was going to look like and adapted to the new reality. Concerns of "how are we going to get through the fall and the winter?" have blossomed into the success of the middle – busy box plants.

There is much anticipation for the end of the tragedy, which will hopefully occur in the beginning of 2021. While it is unlikely the virus will be ended entirely, the distribution of a vaccine and the control of the virus seems to be at hand.

There will continue to be busy box plants in 2021 for several reasons. Box demand has been accelerated by the pandemic. That growth is not at bubble-like percentages. Rather low to mid-single digits, manageable, up, or down. Analysts viewing the data are beginning to opine that due to the pandemic, expected changes in consumer behaviors could be advanced by as many as five years. Growth in e-commerce and other retail habits that can benefit the box business have jumped forward. The unsurpassed sustainability of corrugated remains a huge positive. We think box demand has legs. Technology will also play a strong role. In the consumer marketplace, especially in ordering and shipping. And in the box plant. Many independents have invested this year. Several new equipment installations have taken place bringing more efficiencies, capabilities, and capacity.

The challenge of finding and keeping people remains the industry's number one challenge. AICC's Packaging School provides more than 80 courses online, with several in Spanish, across a broad range of topics. Investing in people is a key to retaining them. AICC recently launched a new charitable education initiative, The Foundation for Packaging Education (www.PackagingEd.org) to ensure an ongoing source of funds for employee training.

Just as I have been impressed by AICC members and the grit they have shown, I am also very proud of the AICC staff. Facing many of the same issues that lockdowns have wrought, this small but dedicated team has kept their collective eye on ensuring that AICC members are well served.

The best measure of how an Association performs is its adherence to and focus on mission.

As 2021 begins, AICC is in the middle of exciting webinar and hybrid programming that is offering more than 60 online, multi-discipline opportunities for AICC members to improve their teams, their processes and themselves. Learning directly from subject matter experts across a variety of timely topics.

With several AICC member sentiment surveys in hand, AICC is planning to hold its Spring National Meeting in-person at The Omni Amelia Island, Fla., April 26-28, 2021. We believe this will be the coming out party for the industry, complete with tremendous speakers and worthwhile content. The staff has been planning for extensive safety protocols and the facility itself has great outdoor space which will be fully utilized. The Spring Meeting will segue us to SuperCorrExpo August 8-12, 2021. As mentioned, technology has not stood still during the pandemic. SuperCorrExpo will be a tremendous opportunity to see and touch the latest in corrugated technology and discuss with the industry's great suppliers the numerous ways that they can partner with you. We expect to see you there.

Last year we opened this column with "It's good to be in corrugated!" Imagine, after coming through a year where everything changed, corrugated is still a good place to be!

Rachel Kenyon
Vice President
Fibre Box Association (FBA)

A lot has changed since I last sat down to share my thoughts for 2020. This time last year, the potential for a presidential impeachment, an unpredictable election, and perhaps an economic slowdown loomed large. But no one knew we would spend the year fighting a global pandemic.

Back then, I ended my perspective with the idea that 2020 would be a year of extraordinary opportunity for the corrugated industry. I was not wrong.

In the early days of the pandemic, we watched as the supply chain flexed and contracted amidst pantry-stocking and toilet paper hoarding. As an industry, we knew disruption in the availability of goods would cause significant hardships to consumers across the country and we worked hard to ensure our facilities and our workers were deemed essential and able to provide steady and stable supplies.

The pandemic put the supply chain in the spotlight and corrugated packaging fulfilled its role as the backbone of that system. From point A to point B, corrugated boxes protect and cushion products as a vital link in the flow of goods to market.

The ability of a box to withstand the rigors of transport through an increasingly complex supply chain is crucial for protecting the product inside and supporting the brand behind it. Packages must arrive in pristine condition and graphics on the box need to provide a mobile billboard for the brand. In addition, it is more important than ever for consumers to understand corrugated packaging's environmental progress and the importance of why and how to recycle the box after use.

In March, corrugated box shipments grew by 9% above March 2019 shipments, boosted by both an additional shipping day and overstocking of household paper products, cleaning supplies and food. Shipments grew again year-over-year in June, July, and September. With October shipments hitting record highs and putting the industry up 2.4% through 10 months of the year, the numbers show there is nothing more tried and truer to distribution and deliveries than corrugated packaging.

So, it has been an extraordinary year for our industry and our products. In many ways, consumers, retailers, environmental groups, and

The ability of a box to withstand the rigors of transport through an increasingly complex supply chain is crucial for protecting the product inside and supporting the brand behind it.

Allen Kirkpatrick
Executive Director
Canadian Corrugated and Containerboard Association (CCCA)

others view boxes in a whole new light reflecting on corrugated's core attributes – essential, sustainable, economical, renewable and recycled – but those foundations are just the beginning. Boxes can be custom designed to reliably ship just about anything and they humbly do it with rarely noticed engineering wonder.

And now, it's official and agreed on – pizza boxes can be recycled. While the tradition of pizza night in American households provided a whole new level of comfort during pandemic restrictions, our industry moved forward with research that corrects a common misconception: the belief that cheese and grease stuck to the boxes would negatively impact recyclability. The industry agreement cleared the way for positive action to increase recovery of old corrugated containers (OCC) in recycling programs adding to an already successful recovery story.

Simply put, boxes are a marvel that deserve center stage in our global quest to seek what happens after the pandemic.

What hasn't changed from my 2020 outlook is Fibre Box Association's focused commitment to telling the story of corrugated boxes. We believe in sharing our progress with box users and consumers. We believe they should feel good about choosing, receiving, using and recycling corrugated packaging. We believe in the resiliency of the people in our industry and we know they will continue to propel the corrugated industry forward.

In 2021, boxes will carry vaccines to the world. They will also continue to deliver everyday essentials, pharmaceuticals, kids' toys, electronics and everything in between. They will facilitate accelerated e-commerce shopping. Boxes will bring it all to our doorstep or ship it anywhere else in the world.

Boxes. The most extraordinary ordinary thing in the world.

My last roller coaster ride was at Disney World in Orlando when my daughters were small. We rode Space Mountain together, where you enter ever so slowly and are given a short time to adjust to the dark and the twinkling lights that gave off only a hint of what was to come. At the top of the first incline there was an unpredictable sharp turn to the right followed by a rapid decline that almost resulted in nausea. A foreboding feeling persisted, when will this be over? When finally completing all the twists, turns, declines and screams it was over. My last roller coaster ride I promised myself! But then came 2020. My nightmare of uncertainty returned, unabated.

As the pandemic gripped the globe in March, we realized how vulnerable we were to government officials moving rapidly to legislate a lock-down. A consensus became clear: we had to immediately reach the senior ranks of the politicians in our provinces and Ottawa, the country's capital. They had to know how "essential" we are to the economy.

Our mission was completed and rewarded. We would keep making boxes, shipping to our customers and keep the economy sustained. We are "essential."

The corrugated plants and mills across the country had to adapt to new realities about health and safety. In late March an all-member conference call occurred to share the steps taken to adjust to this new world: social distancing, masks, working from home, staggered shift changes, Zoom calls, visitor lockouts, reconfigured lunchrooms, sanitizers, Internet health care, quarantines. Everything about being safe for co-workers and family members. Massive amounts of effort paid off.

But out in the world of our customers, things were changing just as fast. Lockdown rules were struck, store lineups were the norm, panic buying emptied shelves for stores able to remain open. Restaurants, theatres, gyms, churches and meeting places closed tight, and we learned what bubbles really were.

The biggest change? E-commerce without a doubt. Current trends show a rate that has doubled this year and seems to keep climbing led by the grocery industry. This has been a huge push for demand on our packaging, a welcome but somewhat unexpected surge. Most reliable predictions indicate this is here to stay. Technology will lead the way to bring increased efficiency to all levels of the supply channel. E-commerce gives equal access to consumers. Will traditional stores hold their customers when big brands can go direct? Will the 'buy local' motivation align with independent neighborhood supply? There are no more rules.

The CCCA produced four unique videos this year and targeted millennials using social media. Results far exceeded expectations as we earned more than 700,000 views of our "Humble Box" production. It was noteworthy that the video on the sanitary nature of our packaging

had the highest organic views by far. People care about packaging; they want it to be safe and our story helped explain that. Dr. Sylvain Charlebois from Dalhousie University in Halifax confirmed in May of 2020 that "there has not been one incident recorded anywhere in the world of covid-19 being transmitted from corrugated packaging."

With the solid demand for packaging, we are delighted with the announcement of Atlantic Packaging installing another recycled paper machine in Whitby, Ontario. The new machine will produce 400,000 tons per annum of high performance lightweight medium and liner. Production is scheduled for the first quarter of 2022.

So, let's draw the curtain on Space Mountain II and dash into the new year with confidence.

Larry N. Montague
President & CEO
Technical Association of the Pulp and Paper Industry (TAPPI)

After decades in the corrugated industry and 14 years leading TAPPI, I thought I'd just about seen it all… but what a year 2020 has been. This pandemic brought us a host of challenges, yet those within our industry have gone above and beyond to meet them. I am proud to serve an industry that, over and over during 2020, has proven itself truly essential.

I am sincerely thankful for the TAPPI Team, our Board of Directors, our Corrugated Packaging Council and our members from around the globe who represent multiple countries. Navigating a global crisis demands cooperation and commitment, and we are surrounded by some of the best individuals the industry has to offer.

TAPPI celebrated its 13th year in a row in the black!

At TAPPI, we have focused on finding opportunity within adversity. By shifting several of our events and courses to virtual offerings, the silver lining has been that it is allowing us to reach many people who would not have been able to attend in person. Some highlights:

- We have seen increased engagement in certain areas as our volunteers develop programs through virtual events, webinars, and working groups. We are grateful that amidst the pandemic our volunteerism is strong as we all continue to better serve our industry.
- Our PEERS and IBBC teams hosted the first-ever virtual conference in November and welcomed more than 200 attendees. The event featured two keynotes and a peer-reviewed technical program of 32 sessions over three days.
- We launched our first course in a blended learning format.
- Our first Virtual Awards Ceremony was a success – packaging played a big role, as did the support of WestRock.
- The pandemic hit TAPPI Events hard. During 2020, 23 events were either canceled or postponed – most notably, SuperCorrExpo®. Yet with the health and safety of attendees and our staff as the most important consideration, we felt it was the right thing to do.

I need to acknowledge the support of *Corrugated Today* and *Board Converting News*. These publications have continued to help us get the word out about TAPPI and the industry in a time when maintaining connection has been challenging. I'd also like to give a special shout-out to the "Queen of Corrugated," Kristi Ledbetter. She keeps us all on track with her talent and her amazing attitude.

We had tremendous momentum coming out of TAPPI's very successful 2019 CorrExpo in Denver, which boasted over 1000 attendees. We were barreling ahead for SuperCorrExpo 2020 and CorrExpo 2021, due to the talents of Linda Cohen, the bona fide Sales Guru for our Corrugated Exhibits.

But 2020 made its own plans, didn't it?

SuperCorrExpo 2021 has been re-scheduled for August 8-12, at the Orange County Convention Center in Orlando, Fla., and we are planning for a safe and successful face-to-face event. We now have 233 exhibitors booking a total of 145,750 net square feet of exciting exhibit space. We look forward to SuperCorrExpo being the event that brings people back together.

We are extremely thankful to our sponsors and exhibitors and the patience that they have shown as we navigate these uncharted waters and make decisions. I would also like to thank the Corrugated Packaging Council and our partners at AICC for their input.

It hasn't been easy, but TAPPI has stayed in excellent financial shape during this challenging time. Our vibrant Women in Industry, Young Professionals, and PIMA Management Divisions continue to thrive. Our flagship magazine, Paper360°, has launched a new podcast series called "Better Together: Conversations with Innovative Leaders." TAPPI remains committed to serving our members and

How do we, as an industry, connect with consumers and offer what will satisfy their needs and expectations?

2020 taught us that together, we can always discover new ways to do that.

We don't know all that 2021 has in store, but I feel confident in this prediction: the corrugated industry will remain essential. I'm excited for a future that will bring us more opportunities to learn and connect in both old ways and new. Here's to a great 2021!

Juan Pablo Pérez
President
Corrugators Association of the Caribbean and Central and South America (ACCCSA)

COVID-19 put us all in a position we never expected to be in, where every person on earth has had to change habits, behaviors and ways to buy. This quickly made brands change the way they communicate and interact with their consumers, and in many cases, they have even rethought their products in order to adapt to the new world.

As a consequence, hundreds of millions shifted drastically to digital services and online payments, e-commerce purchases spiked almost from one day to the next and people are maintaining an almost constant presence on social media. Even if some of us were skeptical, it is time to admit that we are definitely immersed in the digital era.

Among other post COVID era trends that will define the packaging industry is sustainability as a key driver of consumer demand; a strong focus on cost efficiencies across the whole supply chain; an increase in packaging complexity due to consumers wanting more bespoke and hassle free products; and for sure a very dynamic market with everyone out there seeking new ways to deliver growth to their businesses.

So, the question now is, how do we, as an industry, connect with consumers and offer what will satisfy their needs and expectations?

I think corrugated has a world of opportunities and those opportunities are here now, ready for our industry to grasp and deliver swiftly.

We know the trends and we know the needs. One of our allies now becomes data, because the more we know, the better we can respond, and our response goes all the way from having the best people, obviously having the machines and equipment to deliver what the market is demanding, innovating in design and going a step ahead of our customers.

In addition, there are other aspects we can take into consideration on our path towards the future. We should be more proactive as an industry in communicating and making consumers aware of the benefits of paper-based packaging. The renewable, recyclable and biodegradable characteristics of what we produce are unique and something that we must use as a clear differentiating factor. We all know that there are still customers, consumers and other industries that raise flags on the use of paper because it comes from trees and many still believe we destroy forests to do so. We all know the right answer to that, but consumers don´t necessarily have it clear.

So besides answering as an industry to the trends, which is what every business does by nature, I think we should take an additional step and start partnering with local administrations in order to teach people how to recycle at the source and make them aware of the importance of continuing the paper lifecycle. Besides, we surely know we need the fiber.

We should also seek to partner with organizations that are standing up against greenwashing and showcasing the sustainability of paper based products, because we cannot necessarily do it ourselves, each on an individual basis. The obvious move that the plastics industry has done is to become as recyclable and biodegradable as possible, but renewable is still one thing the plastics industry cannot position themselves as. And speaking of plastics, we certainly need to be more agile as an industry in our response to customers with sustainable solutions. By this I mean being capable to offer industrialized and lower cost options. Having our machinery suppliers partner with design faculties could probably be the quick path we need.

And of course, we should be seeking allies to implement and be part of a circular economy process wherever we can.

Looking back, in Europe the first big shock came when borders between member states of the EU suddenly closed. The shock was severe, supply chains were interrupted, and trucks queued for over 100 kilometers at certain times.

At ACCCSA, we will continue focusing on strengthening the bridge between the corrugated packaging industry and suppliers. I am impressed at the resilience we have all proven by keeping our businesses operating and in ACCCSA specifically, we have also been forced to innovate to keep our activities going.

We are hoping 2021 will give us a breath of fresh air and our industry can continue reaping the benefits that the 2020 trends have opened for us.

Angelika Christ
Secretary General
FEFCO

What a year 2020 was! What a challenge to our industry! And how many chances! Corona was the word of the year. We are all getting tired of hearing the news, sometimes it is bad, sometimes it turns out to be a source for hope.

For the corrugated industry 2020 was not a big catastrophe; it turned rather positive considering the fact that we were working under difficult circumstances. Looking back, in Europe the first big shock came when borders between member states of the EU suddenly closed. The shock was severe, supply chains were interrupted and trucks queued for over 100 kilometers at certain times.

To understand the European impact, the post second World War generations grew up with more borders opening, even without border control, and later on 15 countries created their own new Euro currency. Borders closed? A new experience for many, especially the young, and very much disliked among the Europeans that are used to having control-free access to neighboring countries.

It took the European and national corrugated associations a very short time to have corrugated classified as system relevant. There were no compulsory closings of our plants and people were happy to get packaging as usual. A big compliment to all our employees. Working under Corona restrictions is not always easy, but the spirit to support society kept machines producing the badly needed packaging. Interruptions of supply chains were rare. And then Internet shopping started booming since many could not go out because stores were closed. Shopping habits changed, favoring the corrugated industry. The boost of online shopping continues today.

In Europe, an exciting debate had started already on the damage plastic packaging is causing. EU Member states must regulate the single use of plastics, prohibiting the use of popular plastic one-way products like plastic dishes or cutlery. Plastic shopping bags are following to be opted out as part of the efforts of the EU to make the economy more circular. Paper packaging products are facing challenges when coated or combined with plastics – the most absurd example is the bag-in-box, which is two packages in one: a plastic tube to pack the liquid and a corrugated box to protect the tube and make usage easy. If the present drafts come into effect, then the corrugated box would be considered plastics in the scope of legislation. What a world! FEFCO is fighting, hoping that rational arguments will win.

Last but not least, let's look at some figures. Most of the countries' GDPs are facing unprecedented decreases in growth. Only a few industries are better. Corrugated in Europe is fairly stable; the overall rate of change in the first three quarters compared to the same period of 2019 is between zero and minus one percent. Of course, we would like to have better figures, but changes in both September and October indicate an improving development, so maybe the year 2020 altogether will not be that bad, at least compared to all those sectors that face compulsory closing. We are on the luckier side in this pandemic.

We all hope to overcome this in 2021. We have learned a lot, changed working habits, shopped more online – and we will certainly not go back to the old ways of working and instead will refine and build on the lessons learned. But that will be another chapter.

John Mullinder
Executive Director
Paper and Paperboard Packaging Environmental Council (PPEC)
Author of Deforestation in Canada and Other Fake News

An issue that's never really gone away: what is technically recyclable and what can people actually put out for recycling?

This will be my last column for *Corrugated Today* as Executive Director of the Paper & Paperboard Packaging Environmental Council. I am heading back to my journalistic or writing roots after 30 years in the trenches.

So, it's probably a good time to look back as well as forward. I remember my first day on the job meeting a bunch of people whose names I immediately forgot, and who spoke a completely different language. What the hell was OCC, medium, fluting? I had no idea. What we want you to do, they said, is find out what the problem is, and go fix it.

The industry knew it had a problem. The Canadian government, mindful of the 'garbage barge' fiasco and spooked by an OECD report that placed Canada among the world's laggards on waste diversion, was determined to do something about packaging. And corrugated, mainly because of its wide use across all industries, was the chief target.

So began the long journey of getting the facts together, of educating government officials, our customers, and the general public about the quite impressive record of the industry, as then largely unknown and unappreciated in those circles.

I remember an early fight (probably scuffle is a better word) with Don Lumb of the AICC over my intended use of the word 'cardboard' in public. He wanted to stick with old corrugated containers. I recognized where he was coming from but wanted to relate to what people commonly called it. Get their attention first then explain the details later. I've written a blog about this cardboard thing because the old debate about how we communicate is still with us.

But we also did a lot of good stuff in those days. We pioneered the recycling of old boxboard from curbside back into new boxboard and as filler material in new corrugated. Instead of it ending up in the dump, today some 94% of Canadians can recycle it. And through trials at McGill University in the early '90s, we proved that old boxboard and waxed corrugated could make good compost. It's nice to have composting as a second option to recycling in your back pocket.

Which brings us to an issue that's never really gone away: what is technically recyclable and what can people actually put out for recycling? I take the position that most materials are technically recyclable. It depends on how much money you want to throw at them. Actually, I prefer the word re-pulpable because we've got to recognize that not everything that goes into the pulper ends up in the final sheet. I know AF&PA is working on this issue and will have a guidance document out shortly.

But when you put a recyclable logo on a box that indicates something quite different than just being technically recyclable or re-pulpable. It implies that you can actually put that box out to the curb or at a depot and expect it to be recycled somewhere. And please, please do not claim something is 100% recyclable or 100% compostable. It's not. Yes, I have another blog on that! Unfortunately, there is widespread confusion on the use of the word recyclable and a lot of BS claims. It would be good for the industry to come out with some clear guidance.

Which I guess leads me to where I am headed. I have already had one go at some of the misinformation and outright falsehoods being perpetuated about the forest and paper industries *(Deforestation in Canada and Other Fake News)*. I am currently researching and writing another book. The provisional title? *Little (and not so little) Green Lies*. Which goes to prove that once you get paper blood in your veins, it never leaves. Au revoir! ■

Once you get paper blood in your veins, it never leaves.

The Independent II and Domino team from left, Finn MacDonald, Independent II; Ronnie Delauter, Domino; Dale Rahoof, Domino; William Lincoln, Independent II; Michelle Huber, Independent II; Robert Burd, Independent II and Patrick LaMourie, Domino.

INDEPENDENT II FIRST TO INSTALL DOMINO PRESS

THE LOUISVILLE, KY., SHEET PLANT HAD BEEN LOOKING FOR AN 'EVERYDAY DIGITAL PRESS' AND FOUND IT WITH THE X630i.

BY JACKIE SCHULTZ

When high-speed single pass digital printing was first introduced to the corrugated market a few years ago, Finn MacDonald and his team at Independent II watched closely. MacDonald knew he wanted to offer customers digital printing, but he was not convinced that the existing technology was well-suited to his company's mix of business.

Founded in 2006 in Louisville, Ky., Independent II is a full service sheet plant that MacDonald, who is President, likes to refer to as a brown box and light brand manufacturer. Services include design, manufacturing, warehousing and delivery to customers in the food and beverage, e-commerce, home goods, innovation/technology and manufacturing sectors.

Finn MacDonald, President, Independent II

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The single pass, flexo caliber machine was installed at the Louisville facility in August and is the first installation in North America.

"We understand where our strengths are and where our market is. Our DNA isn't built around a lot of high-end display or POP work," MacDonald says. "As those first generation high-end digital printers came out, we would stay connected with that technology and who it was best suited for, but we never felt like it was speaking to us."

Nonetheless, the company did offer digital printing to its customers through a coalition of partners. It was a way to learn more about digital without having to make a sizeable investment in the equipment.

MacDonald found an alternative solution last year when Domino introduced the X630i digital corrugated press. The single pass, flexo caliber machine was installed at the Louisville facility in August and is the first installation in North America. Printing at speeds up to 246 fpm (75m per min), the X630i offers throughput on a small footprint, measuring 10 ft H x 38 ft W x 21 ft D and allows for a wide range of print options. MacDonald says the press is "fundamentally different" from other digital presses for corrugated because it can operate in an industrial production environment, has a relatively small footprint, uses aqueous inks and includes components from well-known corrugated industry suppliers.

The X630i is based on Domino's proven Generation 6 ink jet platform, which has nearly 1000 global industrial ink jet installations. The press is ideal for shipping containers, shelf-ready packaging, and displays and features Domino's i-Tech intelligent Technology for high quality printing. The Domino AQ95 aqueous ink set is Swiss Ordinance and Nestle compliant for food packaging and enables printing on a wide range of uncoated and coated stocks, with no pre-coating primer or bonding agent required. The print resolution is 600 dpi.

Domino has partnered with well-known suppliers, such as Esko for the digital front end, and SUN Automation for the lead edge feeding system. "That was reassuring to us," MacDonald says. "SUN is in a lot of plants and if you're getting that sheet through the machine uniformly and consistently without any issues – good in is good out – then that's a great start and something that we thought made this a strong partnership. The SUN experience in the machine meant that important element of transfer was well-known and had a good DNA behind it."

The servo driven continuous bottom feeding system provides automated setup for sheet sizes, caliper and vacuum assist. It can store jobs and sheet sizes for quick setup and can feed E- to B/C-flute.

Another feature on the X630i that MacDonald likes is the range in blank sizes that the press can handle, which he says is more accommodating for Independent II's downstream converting machines. "If you're running single outs on a flexo folder-gluer, you can start single out at the digital press. The ability of the press to be able to handle that size blank allows us to put the print performance in digitally and then single pass it through the flexo folder-gluer to add the diecut performance and join the box. We don't have to go to a diecutter and break it down and then take it to a specialty gluer to put it back together," he explains. "That's really an area of opportunity that is under-addressed in the market. Having a wider range of dimensional blank sizes go through the Domino press means less work downstream."

The print area on a 63- x 118-inch blank is 53- x 118-inch. "That's a great size blank for a 66-inch diecutter or a 37-inch to 66-inch flexo," he says.

The press has a SUN Automation lead edge feeding system.

Recent samples from customers in the e-commerce, spirits, food & beverage and non-profit sectors. The spirits shipper was for an initial order designed to get market feedback before revision. The e-commerce items reflect seasonality and a COVID-related new business opportunity. The non-profit die line can be re-used with a new visual message.

The press is expected to open up new business and new markets for inside/outside printing, customization, variability and a wider color pallet.

Domino is currently working on a stacker that will be installed on the press later this year.

'Responsive Packaging'

This investment provides a competitive advantage and strengthens Independent II's strategy to offer 'responsive packaging,' a term that MacDonald uses to describe the packaging needed for these tumultuous and disruptive times. With everything changing daily, the press offers customers a cost-effective way to quickly change their branding and messaging as needed.

"This last year has shown us that if it can be turned upside down or changed drastically, it can happen. If disruption happens we're going to be in a unique position to help our customers through it," MacDonald says. "Responsive packaging is a very poetic term that you can sell to and that resonates with consumers. Our Domino press can help us have that responsive conversation with our customers and with their consumers. I really think that's such a great opportunity."

The press is expected to open up new business and new markets for inside/outside printing, customization, variability and a wider color pallet. And then there is the opportunity to run everyday orders, the type of business that funnels through Independent II on a daily basis. "There is this neat area to capitalize on in the everyday world. So much of our life is made up of everyday things and I really think we are in a position to be more dynamic in the everyday space," MacDonald says. "The space above us is well-known. That's high-end premium, but when you get down to where so many of us are impacted with our packaging, that's this everyday level."

While the press is suitable for short and medium runs, MacDonald says order sizes at Independent II vary, depending on the job. "We've run 10,000, 15,000 or 30,000 piece orders. If someone has a 50 or 100 piece order that's going to put them into the retail space for the first time successfully or get to an influencer or to a doorstep with that little bit of surprise, then we want to create time on the machine to do that as well."

The customer wanted to move its brand from one-color on kraft to full color on mottled white. Independent II's design and digital teams developed six new facings which allow for content changes to be revised run over run. The Domino team printed this order in Maryland to meet a deadline for 30,000 pieces before the x630i was installed.

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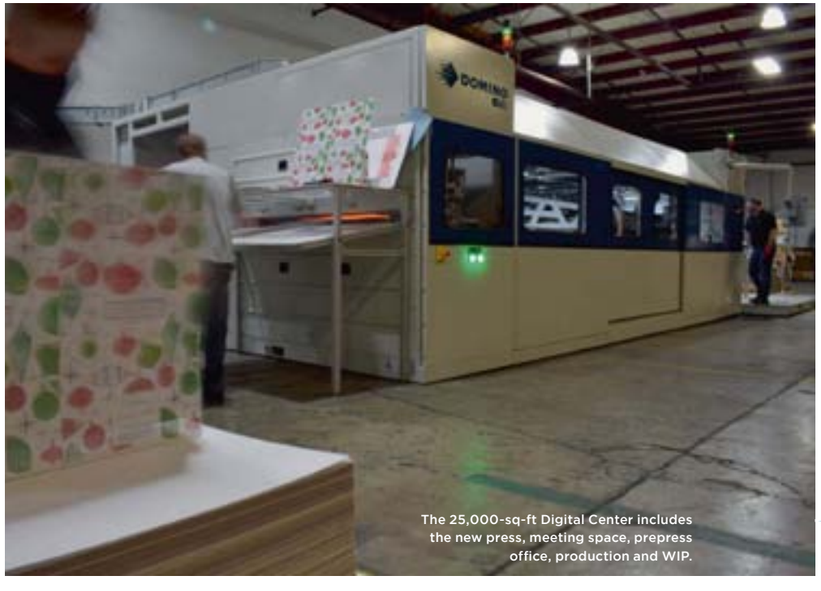
He mentions one such opportunity where a customer was purchasing about 7000 mostly unprinted kraft RSCs and then hand applying two sets of labels to four different SKUs. Digital printing provided a more efficient solution with expanded multi-color graphics. "At one time when labor was readily available and less expensive and getting people into your plant wasn't a public safety concern and you had more space to store label stock it made sense. Now this customer wants other options that would remove hand labor and the investment in stored label stock that required a minimum order," he says.

Digital Journey

Space on Independent II's production floor was limited to a point where there was not adequate room to add additional print units on existing machines. The Domino X630i is located in a designated area in the warehouse known as the "Digital Center." The 25,000-sq-ft space includes the Domino x630i, meeting space, a prepress office, and production and WIP. MacDonald jokes that his digital journey begins every day with a one-quarter mile walk from his office to the press. He says the center is an "oasis" to get work done. "We can more clearly lay out our raw material, and we can better prepare our work in process.

"This digital press can bring multi-color work to any of our existing machines, from Solarco box makers to Baysek flatbed diecutters to our BWP flexo folder-gluers and rotary diecutters," he says. "We can bring all the value and pluses of digital to any one of our existing converting centers without having to make significant investments in those machines to bump up to four-color process."

MacDonald is calculating the X630i will produce operational savings as well as generate new revenue. "If we can get more jobs produced daily – we win. If we can reduce our speed to customer – we win. If consistency improves and managing the print elements of pre-press decreases – we win. When our customers initiate or convert to digital – we win." ■



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- Small footprint (10'H x 38'W x 21'D)
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E-COMMERCE DRIVES STRONG GROWTH

THE GLOBAL PANDEMIC COMPRESSED NEARLY FIVE YEARS OF PROJECTED E-COMMERCE GROWTH INTO A FEW MONTHS, BUT HOW LONG WILL THAT LAST? SPEAKERS AT FASTMARKETS RISI INTERNATIONAL CONTAINERBOARD CONFERENCE PRESENTED A FEW SCENARIOS.

BY JACKIE SCHULTZ

No one could have predicted the swift changes in the containerboard market in 2020. Early on, COVID-19 sent a shock wave through world economies and created a whirlwind of uncertainty that continues into the new year. One of the biggest unexpected positive developments was the strength in U.S. containerboard demand. October shipments of corrugated products jumped 4.2%, from 35.888 billion sq ft in October 2019 to 37.396 billion sq ft in October 2020 setting an all-time volume record.

The million dollar question is whether that growth, which was driven primarily by e-commerce and strong consumer goods demand, will continue. Fastmarkets RISI International Containerboard Conference provided some insight as board converters adjust to a very different market. The conference was held virtually in November.

Ken Waghorne, Vice President, Global Packaging Paper, Fastmarkets RISI, presented an economic overview, which he acknowledged was not easy considering the uncertainties created by a global pandemic, the U.S. Presidential election, China's recovered paper policies, and the future of online shopping. He is projecting 1.9% annual demand growth in global containerboard for 2020-2022.

North America was in better shape than most regions of the world last

Ken Waghorne, Vice President, Global Packaging Paper, Fastmarkets RISI

year with the COVID-19 recession driving down global containerboard demand. Global demand reached 171 million metric tons in 2019, with Asia accounting for 83 million metric tons. The Americas and Europe represent 25% and 18% of global paper packaging demand respectively.

North American paper packaging demand in 2019 was 47.2 million metric tons, and roughly two-thirds of that was in the containerboard market. As of September, broad manufacturing activity still had not returned to pre-COVID-19 levels, with nondurable goods production 4.2% below year ago levels. In stark contrast, box shipments and containerboard consumption were both up significantly.

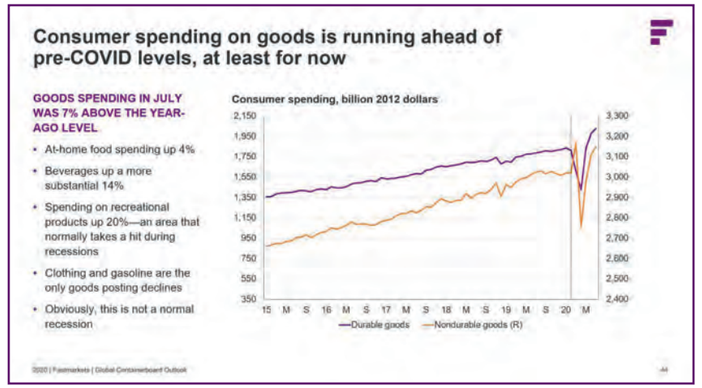
Traditionally, containerboard demand grows at the same pace as nondurable goods production. In 2020 these two indicators were at odds. Why? Waghorne said there were two reasons: e-commerce, which was up 20% to 30%, and the 'K' shaped recovery, which he said had an even bigger impact on box shipment growth.

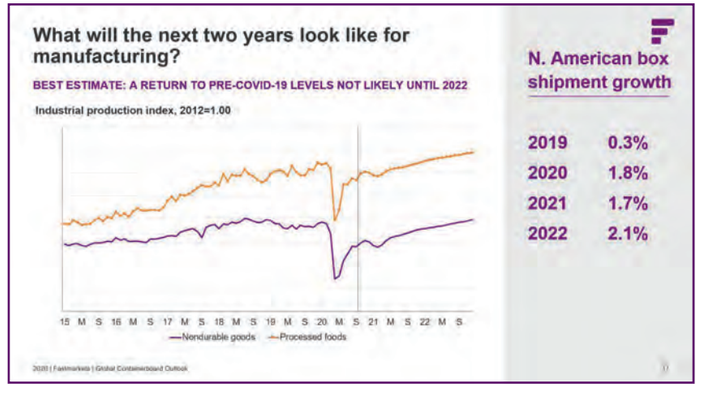
At the end of last year consumer spending on goods was running ahead of pre-COVID levels. At-home food spending was up 4%; beverages (primarily alcoholic beverages) were up 14%; recreational products were up 20%. Clothing and gasoline were the only goods posting declines. "Obviously, this is not a normal recession." Waghorne said.

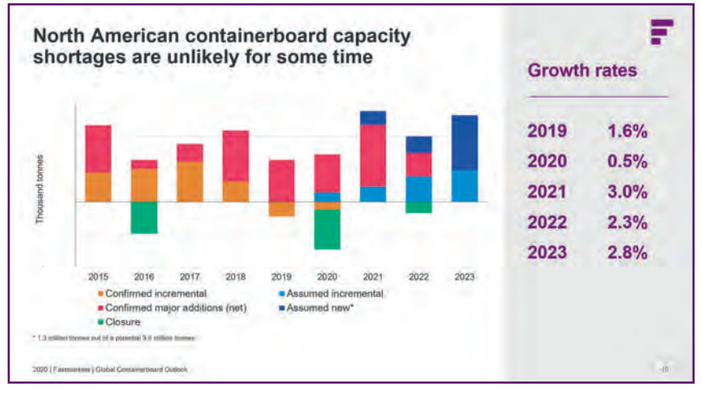
He is projecting a slight downturn in manufacturing in the beginning of 2021 with the longer term post-COVID trend of growth in nondurable goods production and box shipments. His projections for North American box shipment growth in 2021 and 2022 are 1.7% and 2.1% respectively.

He cautioned that this growth is not as rosy as it looks. His concern is the increase in North American containerboard supply in the next five years. Confirmed projects in the 2020 AF&PA capacity survey show 2.3 million metric tons of capacity additions from 2019 to 2023, and pre-

Demand has exceeded capacity growth so far this year, especially with the capacity closures that have hit the market.







COVID proposals were out for another 5.0 million metric tons of new capacity.

"We're looking at 2% to 3% growth in containerboard capacity going out to 2023. That becomes a bit of an issue because looking at demand, you're looking at 2% growth," Waghorne said. "Demand has exceeded capacity growth so far this year, especially with the capacity closures that have hit the market. We've seen operating rates bounce back up to a 94% average but looking at the next two years we have a lot of capacity coming into the market so we do not see much room for operating rates to improve from this year's levels."

Internet Sales

The global pandemic compressed several years of e-commerce growth into a few months, providing a new growth path for corrugated. Derek Mahlburg, Director, North American Graphic Paper, Fastmarkets RISI, presented the evolving impact of the Internet on corrugated packaging.

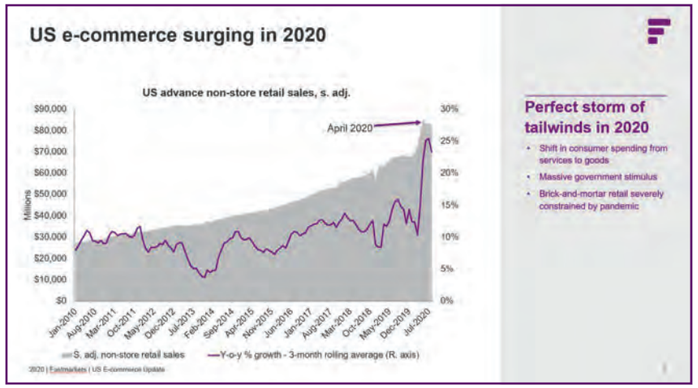
Derek Mahlburg, Director, North American Graphic Paper, Fastmarkets RISI

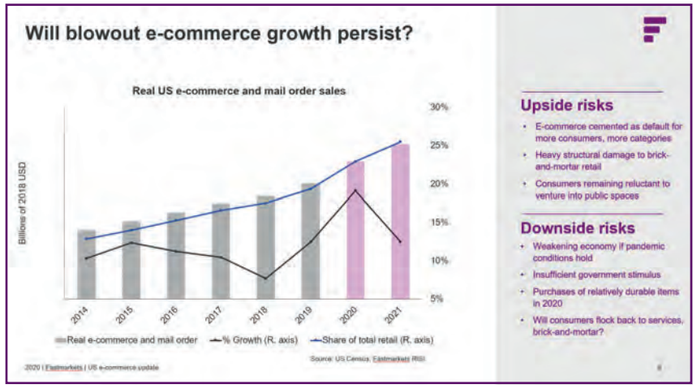
As long as e-commerce continues to take more share of retail sales, growth will continue.

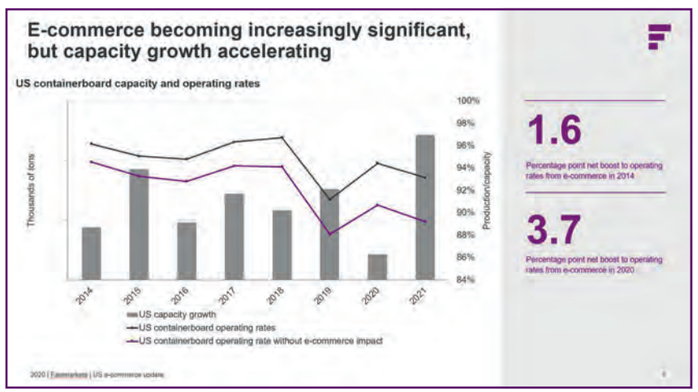
He said there was a perfect storm of circumstances in 2020 driving unprecedented growth in e-commerce. The global pandemic shifted consumer spending from services to goods, and a government stimulus package provided additional income for increased spending. In November, year-to-date non store sales was over 20%.

As long as e-commerce continues to take more share of retail sales, growth will continue. The growth rate has doubled since 2017 and 2018 and will account for one-fifth of total retail sales, excluding autos, after 2020, he said. "The million dollar question is will this spectacular growth continue? There are risks on both sides that make this hard to predict."

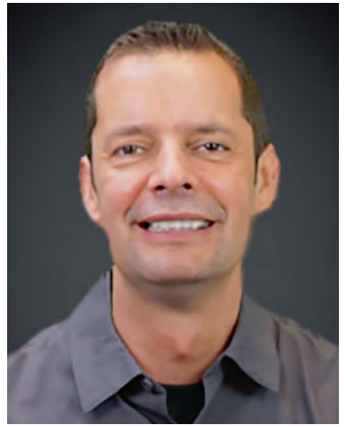
E-commerce has been a major factor in the growth of U.S. domestic box shipments over the last several years. The share of total box shipments for e-commerce fulfillment in 2019 was about 6%. "We estimate that rising shipments to e-commerce fulfillment were about 40% of total box shipments growth between 2015-2019 and we look for this dynamic to continue," Mahlburg said. The share of total box shipments growth expected for 2020 was 43%.







E-commerce has been a major factor in the growth of U.S. domestic box shipments over the last several years.



Christian Gerdes, Director, Global Procurement Director Packaging, Kimberly-Clark, shared his thoughts from a consumer products company perspective. In March 2020, demand for Kimberly-Clark's products surged 120%-140% compared to a year ago and e-commerce sales nearly doubled. "I remember going into stores and not seeing any toilet paper and paper towels," he said. "We saw a lot of strain on our supply chain. Keeping our lines running and making sure we had the additional capacity from our packaging suppliers to support this demand was key. Without the support of our corrugated suppliers we wouldn't have product on shelf so a big thank you."

Regarding the changes in Kimberly-Clark's supply chain, Gerdes said, "We see a lot of different requirements in terms of packaging formats – designs and sizes – so that drives complexity in our supply chain. The other thing we are seeing is a push into sustainability in the way we are making our products, packaging them and shipping them. We want to make sure that our packaging becomes more sustainable and we are moving away from plastics into paper.

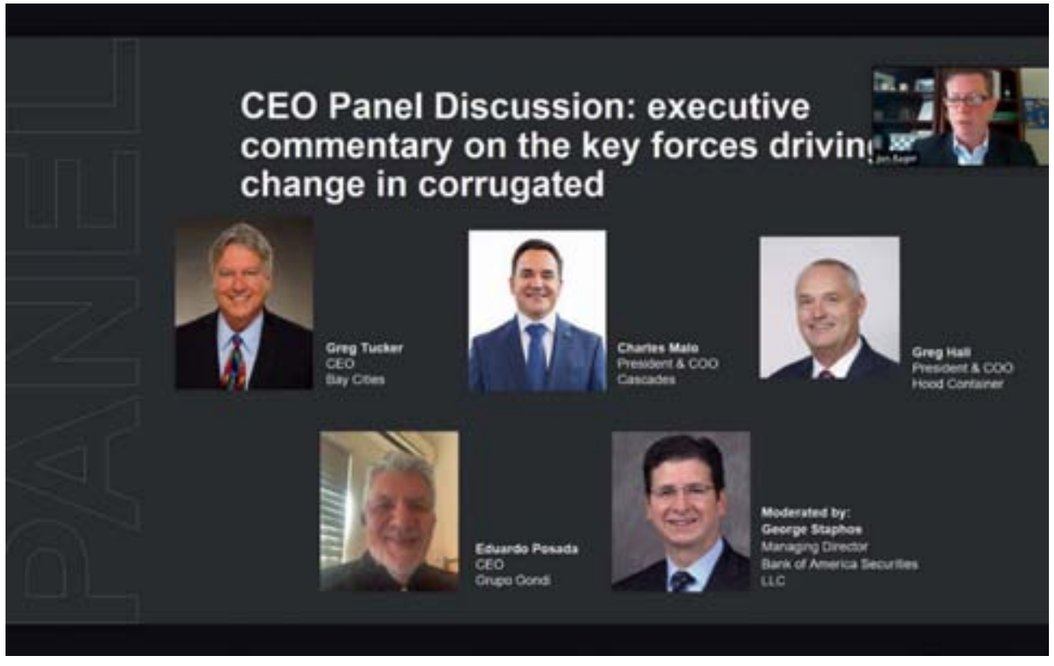
"Right now our success is measured on securing supply, meeting our consumer needs and demand and making sure our lines are running, and often that means not only having a single source supplier but having backup solutions to ensure that our product is on shelf," he added. ■

Demand for Kimberly-Clark's products surged 120%-140% compared to a year ago.

CEOs EXAMINE KEY ISSUES DRIVING CHANGE

EXECUTIVES FROM FOUR COMPANIES SHARED STRATEGIES, LESSONS LEARNED AND THOUGHTS FOR THE FUTURE AT FASTMARKETS RISI INTERNATIONAL CONTAINERBOARD CONFERENCE.

BY JACKIE SCHULTZ



During Fastmarkets RISI International Containerboard Conference in November a panel of four CEOs provided their insights into the impact of COVID-19, their strategies with future investments, demand and supply dynamics and sustainability goals. The conference was provided as a virtual event platform. The panel was moderated by George Staphos, Managing Director, Bank of America Securities LLC.

Kicking off the discussion, Eduardo Posada, CEO, Grupo Gondi, said he anticipates significant changes ahead with the industry moving to lower basis weights, reduced footprints and an entirely different attitude toward packaging, particularly premium and personalized packaging. "E-commerce is definitely here to stay. We're going to have to look at different ways of transforming paper into boxes," he said.

The pandemic forced many consumers who were not initially comfortable with ordering goods online to embrace e-commerce. "There are people who a few months ago never thought of using that media to get food to their houses," Charles Malo, President and COO, Cascades,

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> "E-commerce is definitely here to stay. We're going to have to look at different ways of transforming paper into boxes."
>
> **EDUARDO POSADA, CEO, GRUPO GONDI**

said. "In regard to what impact this will have on our industry, we will have to provide lighter weight but also adapted packaging solutions. Consumers will be looking for the 'feel good experience' similar to when they saw the product in the store." Developing new ways to trace a package will also play a major role in the future, Malo said.

While mills will be focused on lightweight liners, the converting side of the business will need more automation and quick turnaround machinery to meet the needs of e-commerce retailers and consumers, Greg Hall, President and COO, Hood Container, said.

Greg Tucker, CEO, Bay Cities, agreed. "This pandemic has taken e-commerce from where it was a year ago to where it was supposed to be in five years. There is a need for speed. Everything is going to get faster because we want everything now. You can order something and have it in your house in two hours. I also think we're going to see mass customization and mass personalization."

Referencing brick and mortar businesses, Tucker said, "The retailer is not dead. The retailer is going to be alive, but when you walk into a retail environment it's going to be more of an experiential feel and products will be displayed and presented in a different way."

> "There are two battlegrounds that packaging has to move into. We have to start thinking about where primary packaging is going to land."
>
> **GREG TUCKER, CEO, BAY CITIES**

Online and On-shelf

Tucker said packaging will have to be designed for online and on-shelf. "There are two battlegrounds that packaging has to move into. We have to start thinking about where primary packaging is going to land. A CPG can't continue to run a high-speed line of (product) and do the same thing for a e-commerce package. Somehow there's got to be a blend."

Technology and digitalization using QR codes, augmented reality and watermarking will also play a bigger role in packaging, according to Tucker. He expects to see more digital printing, robotics and digital cutting in box plants. "Anybody buying an analog diecutter in the next three years where you're introducing tooling, you're making a deathly mistake, unless you're running large volumes. It's going to be speed to market, quick turn, smaller runs that are more customized."

In May, Cascades launched a new product line designed for e-commerce under the Cascades e com packaging solutions™ banner. "Packaging will have to adapt to be multi-task to go on the shelf and through different areas of the supply chain," Malo said. "In our company we have a highly skilled design group who provide adapted solutions and special designs to help our customers that are faced with a new type of demand and new challenges in the supply chain. When we introduced our new line of e-commerce packaging, a big part of that was to provide services that goes with it – testing expertise, knowledge of the supply chain and also the design for customized packaging solutions."

> "Packaging will have to adapt to be multi-task to go on the shelf and through different areas of the supply chain."
>
> **CHARLES MALO, PRESIDENT AND COO, CASCADES**

COVID's Impact

Staphos asked panel members how COVID-19 has changed their companies. Hall said the global pandemic has unified his company. "Hood Container is a relatively young company about eight years old with a lot of acquisitions so we had a lot of plants that were not a unit. Through preparedness and planning and response to issues, the pandemic has caused us to become a much closer group and it has helped to build a new culture. As we say, 'One Hood.'"

The same was true at Grupo Gondi, Posada said. "COVID has helped to bring along the culture and the integration of the Gondi family quicker." He said the number one priority from the very start was the employees. "We needed to separate the people in high risk groups, so between the high risk groups and the home office we had 1600 people at home for the last six months fully paid. Half of them are working from home and the high risk people, especially operations and people from the line, are staying at home and staying safe." In addition, the company implemented private transportation and reinforced its medical departments at each plant. "We still have a lot of people at home and they're fully paid and we want them back. This shows our workers and operators that they're the most important asset of the company," he said.

Tucker fears that COVID-19 is dismantling the culture at Bay Cities as everyone is communicating via teleconference. For a change of pace, the company last fall hosted a meeting in a tent large enough for social distancing and brought in a band and a food truck. "We're all seemingly losing our culture," he said. "How do we keep our culture? That is where we're spending an inordinate amount of time."

In terms of lessons learned from COVID, Hall said it was "being prepared and understanding that we have to take care of our employees first and foremost. If we do have a

> "Through preparedness and planning and response to issues, the pandemic has caused us to become a much closer group and it has helped to build a new culture."
>
> **GREG HALL, PRESIDENT AND COO, HOOD CONTAINER**

possible case, the contact tracing that we have to do and the number of employees that affects inside the facilities is tremendous. In some cases we had to move work to other facilities during that period of time where we had high levels of contact tracing in the facilities. It has made everyone come together and work much better as a team."

A Balanced Mix

On the subject of lightweighting, Staphos wanted to know who was driving the trend in North America – brand owners and e-tailers or the consumer. Tucker said Europe's dominant role in sustainability was influencing what is happening in the U.S.

Another factor is the new capacity in North America. "All the new machines that have been installed and major investments in North America are by design able to produce lower weights," Malo said. "This will help the customers here in North America to use lightweight in their product."

Staphos wondered about the impact of this on the share of virgin versus recycled. "Does the future see more growth in virgin or recycled?"

"I of course would be pushing kraft because that is what we have, but I come from a recycled mill background," Hall said. "We all know kraft liner performs better than recycled in certain areas like produce and refrigerated items. In those cases there is going to be a need for kraft. However, the recycled quality has continued to improve over the years in performance and printing so I think both recycled and kraft perform very well."

"If there is no recycled there is no kraft," Posada pointed out. He said the entire mill system has to work with a balance of both virgin and recycled and believes the drop in Asian demand for OCC will stabilize the market in terms of recycled grades. "I believe there is going to be a bigger demand for lower weights," he said. "You cannot be just a commodity producer. We (Grupo Gondi) have a mix of amazing things. You see a corrugated plant together with a high graphics or folding carton plant in the same site. You have to be ready for all the changes for e-commerce, personalized packaging and digitalization and we have tried to be ahead of the game in Mexico and we have been successful in going faster in our high graphics business and our sexy box business than the rest of the business and that has made us more competitive." ■

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PREVENT DOWNTIME WITH PREDICTABLE MAINTENANCE

AS AN INDUSTRY, WE GENERALLY WAIT FOR THINGS TO BREAK AND THEN WE FIX THEM. LET'S BE MORE PROACTIVE, NOT REACTIVE.

BY DICK TARGET
"ON TARGET" CONSULTANTS

To date, we have had discussions on machine design and improved production techniques. They have included tooling, ink management and component tolerances. We have also had discussions on understanding inter-plant communication and maximizing a box plant's capabilities.

In this article I would like to offer suggestions on how to better support the maintenance department by implementing a more progressive management style. We'll begin with a review of the box making process, specifically for maintenance, focusing on the importance of respecting tolerances and timely machine repair. Management needs to give maintenance adequate time to do their job with minimum interruption.

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Many suppliers have specialists that handle certain lines. It is an advantage for the customer to know who that person is and when he or she is generally available.

In my years of experience, I have had the pleasure of working in box plants in over 39 countries in all five continents. There is one common denominator that stands out. There frequently seems to be a strained relationship between the maintenance department and manufacturing. Both sides feel the other does not understand or respect their position. Maintenance thinks machine operators do not understand the flexos or diecutters. (Sometimes they are right.) They feel that this results in poor performance and premature machine failure. At the same time, operators feel that maintenance never fixes their problems correctly or completely. There are times when the crews did not really understand what they did themselves that caused the machine to break. Sometimes, it was nothing the crews did at all. Machine failure or breakdowns can frequently be associated with lubrication issues, metal fatigue, worn parts and life cycles of various components. I would say that if the crews were consistently a part of the repair process, they might have a better understanding of how to set machine components. This includes folding belts, doctor blades, slotter knives, hoses, nip settings and various drive components.

I would first like to discuss the concept that mechanics in maintenance should strive to have a better understanding of the converting process. Many times, qualified mechanics are hired from outside our industry. They are talented and are qualified people but do not have a background in corrugated or the process of making boxes. They need specific orientation in performance requirements on flexos and rotary diecutters and how they all come together. I meet these guys all the time. Many times, they are thirsty for knowledge and "process" understanding. Managers need to review this part of their business. Manufacturing managers should meet with their mechanics on a regular basis. They should offer technical support and help them with proper training and process orientation. Tolerances need to be discussed and understood. Mechanics need to understand why parallel is important (in both plains). Within 0.002" (0.05mm) is very different than +/- 0.002" (0.05mm). Board caliper and product uniformity need to be discussed and understood.

If the maintenance department feels that the operators are damaging their presses, there needs to be some type of formal or productive communication between departments so that this feeling is minimized and eliminated. That is the reason why we discuss the idea of internal customers within manufacturing as a tool to improve the overall environment.

Catalog Everything

The next area that I would like to review is the concept of predictable maintenance. This is a concept that I rarely see and is frequently put aside when I bring it up as a discussion item. All machines in a box plant have normal life cycles. They all have a somewhat predictable future as far as years or hours of production capabilities. In our business, we deal with a variety of wear items. We need to improve the environment as to how we manage these wear items and support their replacement programs. As an industry, we generally wait for things to break and then we fix them. We should learn to be proactive and not reactive. I do feel that there are benefits in organizing wear items and planning for their replacement in due time.

The first thing to do is to gather required information with each individual piece of equipment. You need to organize and have available the following information:

- The proper name of the flexo or diecutter
- The size of the press, i.e. (66"x 125")
- Number of color stations
- Does it have an inline diecut section
- The serial number of the machine
- The telephone number of the OEM or preferred supplier
- A contact name at the supplier so we know who to call

Note: 1. When calling the OEM, in many cases, they can't help you unless you have the machine serial number. This allows them to offer you engineering upgrades or current information that you might need in order to complete the job completely and correctly.

Note: 2. Many suppliers have specialists that handle certain lines. It is an advantage for the customer to know who that person is and when he or she is generally available. It also helps if you have a business relationship with the proper contact person so that you can always have a productive dialog on the phone.

Note: 3. Create an alphabetic or numeric list of each piece of

Predictable Scheduling Table

Machine #136	Pre-Feeder	Type	Serial #	Size	No. of print stations	Sun Lead Edge Feeder
"Big Flexo"	Sun or other suppliers	Langston Flexo	772501	50" x 113.5"	4	

Identifying Name of Machine
Serial Number of Specific Machine
Machine Size and Configuration

Supplier's Name
Supplier's Phone and Contact Person
Model Name or Number of Specific Machine

Wear Items

Item	Part #	Qty	Life	Time of Inspect	Lead Time	Time to Replace	Vendor	Comments / Status
Lock Out Box		One	Inspect Every Month		1 Week		Catalog	
E-Stop Buttons	All Locations	Five	Inspect Every Month		1 Week			
Lubrication			Inspect Every Month					
Air Leaks			Inspect Every Month					
Main Motor Drive Belt	Supplier and Part Number	One	Inspect Every 3 Months		4 Weeks			
Pre-Feeder Belts			Inspect Every 6 Months		3 Weeks			
Pre-Feeder Lay Boy Cylinders		Two	Inspect Every Month		4 Weeks			
Pre-Feeder Elevator Lift Cylinders		Two	Inspect Every Month		4 Weeks			
Pre-Feeder Safety Bar Cylinders		Two	Inspect Every Month		4 Weeks			
LEF Wheels	Name and Part Number	53	1.5M Sheets		2 Weeks		Sun Source 1	
Feed Roll	Name and Part Number	One	Inspect Every 2M Sheets		3 Weeks		National Roll Kote Republic Roll	
Feed Roll Springs	Part Number	Two	Inspect Every 2M Sheets					
Station Wheels			Inspect Every 12 Months					
Pull Bands	Part Number and Supplier	2 Sets	2M Sheets		1 Week		Mid West	
Pull Collars	1st Down Upper # 255217-C	6 Pcs.	Inspect Annually		6 Weeks		Sun Source 1	
Pull Collars	2nd Down Upper # 259449	6 Pcs.	Inspect Annually		6 Weeks		Sun Source 1	
Wiper Roll	Supplier and Part Number	2 Pcs.	Inspect Every 3 Months		3 Weeks		National Roll Kote	
Anilox Roll	# 407933-D	Two	Inspect Monthly		6 Weeks		Pamarco	
Slotter Knives Male	# M2362-S	4 Sets	Inspect Monthly		2 Weeks		Zenith	
Slotter Knives Female	# M2350-S	4 Sets	Inspect Monthly		2 Weeks		Zenith	
"INK FOUNTAIN"								
Ink Pumps		2	Inspect Every 3 Months		3 Weeks		Greymill	
Ink Filters		2	Inspect Daily/Crew					
Plumbing System	Check for Leaks		Inspect Every 3 Months					
Slotter Head Wear Buttons	Supplier and Number	8	2M Sheets		3 Weeks		Sun Source 1	
Glue Tab Knives	"B" Flute D-800	1 Box 50 Knives	Check Inventory Monthly		2 Weeks		Dicar	
	"C" Flute- D-875	1 Box 50	"SAME AS					
	"DW" - D-975	1 Box 50	ABOVE"					
Lower Scoring Heads (Male)	# 410586		Inspect Monthly					
Upper Scoring Heads (Female) Urethane Cover	W I-1075 / # 410597	4	Inspect Monthly		2 Weeks		Wagner Industries	
FOLDING SECTION								
Glue Heads To be Installed	7 Hole Heads	3	OPEN		2 Weeks		Valco	
Hold Down Rollers	# 256727	14 Pcs.	Inspect Every 3 Months		6 Weeks			
	# 256726	24 Pics.	Inspect Every 3 Months		6 Weeks			
Parallel Check			12 Months					
Transport Belts	# 42921502 53 Ft. 3 In.	2	Inspect Monthly		1 Week		Sun Source 1	
Folding Belts	# 23652-2	2	Inspect Every Month		1 Month			
Exit Roll Bearings	# 18214	2 Pcs.	Inspect Every 6 Months		4 Weeks		Sun Source 1	
Drive Chain Line	# 11397 Chain # 11283 Link	One	Inspect Every 3 Months		4 Weeks		Sun Source 1	
"COUNTER-EJECTOR"	Functions		Inspect Every 3 Months					
Pusher Plate Cylinder	# 22936-1	One	Inspect Every 6 Months		4 Weeks			
Elevator Lift Cylinder #1	# 20599-1	One	Inspect Every 6 Months		4 Weeks			
Elevator Lift Cylinder #2	#22935-1	One	Inspect Every 6 Months		4 weeks			
Support Finger Cylinder	#21605	OPEN	Inspect Every 3 Months					
Trombone Cylinder	# 22898-1	One	Inspect Every 3 Months		4 Weeks			
"Hold Down Bar" Air Cylinder	# 23140-1	2 Pcs.	Inspect Every 3 Months		4 Weeks		Sun Source 1	
Toggle Switches on Control Panel		12	Inspect Every 3 Months					
"Compression Section" in C/E	Function		Inspect Every 3 Months		3 Weeks			
Top Belts	# 21933-1	3 Pcs.	6 Months		3 Weeks			
Bottom Belts	# 21933-2	5 Pcs.	6 Months		3 Weeks			
"LOAD FORMER"								

> When we wait for the wear item to fail, we could have manufactured boxes that do not meet our customer's requirements.

equipment in your plant (including corrugator components).

- Identify each wear item.
- Identify the corresponding part number.
- Is it right hand or left hand drive?
- Is the bearing fixed or floating?
- Identify the machine serial number and have it available.
- Identify how many of these parts are on each machine. In many cases the quantity will vary according to the machine size. (For lead edge feed wheels the number varies depending on the width of the press and the cylinder size of the print cylinder.)
- It also helps if you have historical data of the wear item and the last time it was ordered or replaced.
- Identify the normal lead time. This is important as it may and will control the time for replacement. If it is a critical item, then this becomes even more of an issue.
- Identify the cost of the part and if there is any cost differential with quantity orders.
- Is the part located on the operator's side or drive side?
- Be careful of substitute parts as they can be made with the wrong material, the wrong steel or the wrong hardness. The grain structures of the steels that we use or the synthetic materials (polyurethane) that we use are called for in the original design for a reason.

Another area that needs to be identified is associated parts. In many cases, you need to understand that when your machine is apart and somewhat disassembled, there can be corresponding parts that also need to be replaced. These parts can be very low-cost items, but high replacement cost items due to associated labor.

It is also important to understand the life of the wear items. We need to do a better job of ordering and managing wear item replacements in due time. As I stated previously, we normally wait for the part to wear out or fail and then we start the process of replacement. It is then a rush job! Production can be adversely affected, and we then spend extra money on express shipping charges, airfreight and over-night shipping. This not only adds cost, but it introduces unnecessary stress into the plant.

Ensure High Quality

I would also like to point out that when we wait for the wear item to fail, we could have manufactured boxes that do not meet our customer's requirements. There can be a time delay when worn items contribute to poor quality and the time when the crews or quality control personnel identify poor quality product. We then have to troubleshoot and try to identify which worn item has caused the problem. How many bad boxes have we made and shipped and how will that affect our customer's production lines? The customer will then suspect their choice of box supplier. Frequently, crews will overcompensate machine adjustments to try and fix a problem caused by a worn item in another part of the machine. This is not good.

The solution for this is actually quite simple. Create a chart (see previous page) in the maintenance department that lists each of the machine centers in the plant. This includes flexos, rotary and flatbed diecutters, and all the individual components in the corrugator. Use the charts listed in this article. The first week of each month meet with the maintenance manager and review the necessary activity required for the next month. Review the lead times for the required wear items that need to be replaced the following month. This also helps manage cash flow! You should also advise the crews that their wear items will be arriving in the next two to four weeks depending upon when they were ordered. This helps them focus on quality and lets them know that the wear items are on order and in the schedule.

It is also important to remember that excessively worn parts can damage neighboring components. Worn bearings can damage gears, which in turn will damage housings etc.

I have suggested that the management team oversee the culture where maintenance and production work together to further develop this process. It is necessary that the overall manufacturing costs be closely managed as we live in an industry where orders are lost on half a penny per box. This is a very effective way to better manage manufacturing, reduce manufacturing costs and stay competitive in a very aggressive market.

As always, enjoy your job! ■

Dick Target is a regular contributor to Corrugated Today. He is the owner of "On Target" Consultants in Lower Gwynedd, Pa., and teaches flexo and diecutter calibration short courses for TAPPI. He can be reached at dicktarget@gmail.com

THE QUEST FOR THE PERFECT SHEET PLANT

THROUGH MAJOR ACQUISITIONS AND ORGANIC GROWTH, OPUS PACKAGING HAS EXPANDED TO FIVE FACILITIES, INCLUDING A NEW GREENFIELD OPERATION IN INDIANA.

BY LEN PRAZYCH

The new 170,000-sq-ft facility in Whitestown, Ind.

Over the decades, many box makers have tried but only a select few have succeeded in the elusive quest to build the perfect sheet plant. The most recent attempt at claiming such a success is by veteran corrugated industry professionals Kevin Manor and Butch Stoner, whose newest operation, Opus Packaging – Indianapolis in Whitestown, Ind., is checking all the boxes.

In October, Opus announced that it had "acquired significantly all of the assets" of Arvco Container Corp.'s Indianapolis location. Arvco is based in Kalamazoo, Mich. Many of those assets included machinery, employees and customers that are being welcomed into Opus' new greenfield facility in Whitestown that began operations in August 2019.

"We've had a relationship with Arvco for decades and the company is still a supplier to Opus," says Manor. "One of their largest customers relocated up to Detroit, the lease on Arvco's Indianapolis facility was coming due, and COVID-19 had hit them pretty hard, so it was time for them to make a decision as to whether or not they wanted to maintain a presence here in Indianapolis. We were in the process of finding equipment for our new Whitestown facility when the opportunity to acquire Arvco's assets presented itself."

"It was a natural," adds Stoner. "The assets from Arvco provided the much-needed equipment, as well as key employees and the sales infrastructure for our new startup, while renewing the friendship between the companies and ultimately, maximizing our efficiencies."

Of the 30 employees now working at Opus Packaging – Whitestown, 10 are from Arvco, which is seven miles from the Arvco Indianapolis facility. Several of Arvco's temporary workers may also be joining the company. Opus brought in two of Arvco's sales staff, including one full-time outside salesperson. The second is an inside salesperson, who doubles as a designer. Both brought "a good book of business" that will now be serviced by a company with a long history of providing stellar customer service.

A Family Business

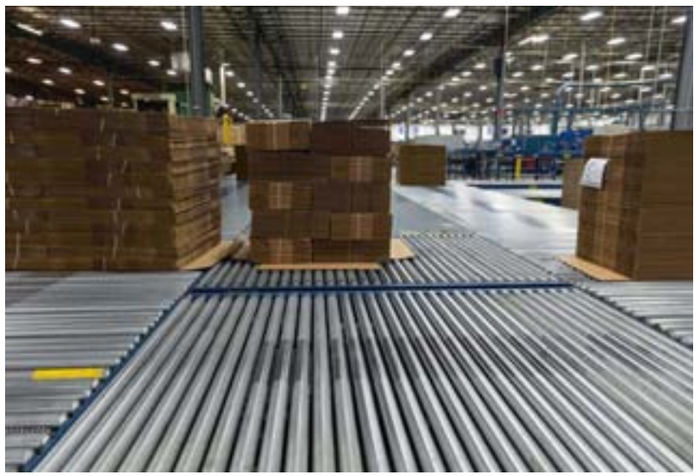
The origins of Opus Packaging began in the mid-1940s after World War II, when Robert Manor and Ralph Stoner started their respective corrugated box careers at River Raisin Paper Co., which was later acquired by Union Camp. Robert Manor was married to Stoner's sister, Virginia. Stoner moved on in 1967 to co-found Michigan Packaging Company, a corrugated sheet supplier. Manor established Safeway Packaging in 1984 to manufacture corrugated packaging, which his son, Kevin Manor, took over in 1994 after Robert's untimely death. Butch Stoner worked for his father at Michigan Packaging as President until 2000.

As cousins, Kevin and Butch spent their formative years watching their fathers succeed in the corrugated business and after enjoying successful careers in the industry themselves, decided to join forces: in 2001, the two acquired Action Packaging in western Michigan, an area in which they grew up and were eager to return.

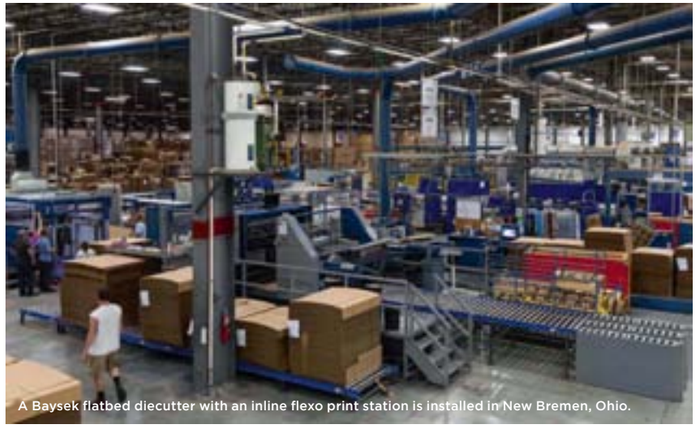
Both Safeway and Action enjoyed record growth from 2000 to 2010, when the cousins established joint ownership of both companies to take advantage of the synergies created by being commonly owned. In 2013, they bought an existing box maker in Jackson, Mich., and formed Opus Packaging as the holding company for the three locations. Growth continued in March of 2019 with the purchase of Wabash Container Corp. in Mount Carmel, Ill., and in August 2019, with the investment in the greenfield operation in Whitestown. Manor and Stoner decided that as joint owners of five facilities, they would rebrand under one name, Opus Packaging. The company's five wholly-owned entities are Opus Packaging – Grand Rapids in Caledonia, Mich., company headquarters; Opus Packaging – New

"The assets from Arvco provided the much-needed equipment, as well as key employees and the sales infrastructure for our new startup, while renewing the friendship between the companies and ultimately, maximizing our efficiencies," says Butch Stoner.

A Bahmueller jumbo gluer was purchased for the Grand Rapids facility in Caledonia, Mich.



Since 2011, Manor and Stoner have grown Opus Packaging 100% through internal organic growth and acquisitions.



A Baysek flatbed diecutter with an inline flexo print station is installed in New Bremen, Ohio.

As cousins, Kevin and Butch spent their formative years watching their fathers succeed in the corrugated business and after enjoying successful careers in the industry themselves, decided to join forces.

Bremen in New Bremen, Ohio; Opus Packaging – Jackson in Jackson, Mich.; Opus Packaging – Wabash in Mt. Carmel, Ill.; and Opus Packaging – Indianapolis in Whitestown.

"Our fathers taught us that customer service is at the heart of everything we do," says Manor. "As a single-source packaging partner, we'll do whatever it takes to ensure our customers' packaging and distribution needs are met, today and tomorrow. Decades of experience has taught us that a collaborative process with our customers results in more efficient, effective products."

Indiana Strong

It was having several "sizable" customers – and correspondingly sizable freight costs – in Indiana that were being serviced from Opus' Grand Rapids facility in Michigan that prompted the cousins to open the new 170,000-sq-ft facility in Whitestown, which before Arvco's assets were added, contained a Ward 66- by 125-inch two-color flexo folder-gluer, a Post folder-gluer and some peripheral equipment. "Because we were essentially starting from scratch, we felt like we were in a position to create the perfect sheet plant," says Stoner. "But we needed another flexo folder-gluer and another rotary diecutter. We got an S&S 30- by 90-inch flexo folder-gluer in the Arvco purchase, but we decided to re-deploy the diecutter that was in the Arvco facility to one of our other locations and bring in a brand new Hycorr."

The Hycorr is a five-color (four-color outside and one-color inside) 66- by 115-inch rotary diecutter that started up in November and has the capacity to accommodate the needs of Opus' existing and new customers in the automotive, pharmaceutical, manufacturing, food and beverage segments. The inside/outside print capabilities will also satisfy the increased demand for e-commerce packaging. "We bought our first Hycorr five-color (all outside print) machine for our New Bremen operations three years ago and we were very satisfied, which is why we are investing in another here in Whitestown," says Stoner.

"We bought our first Hycorr five-color machine for our New Bremen operations three years ago and we were very satisfied, which is why we are investing in another here in Whitestown," says Butch Stoner.

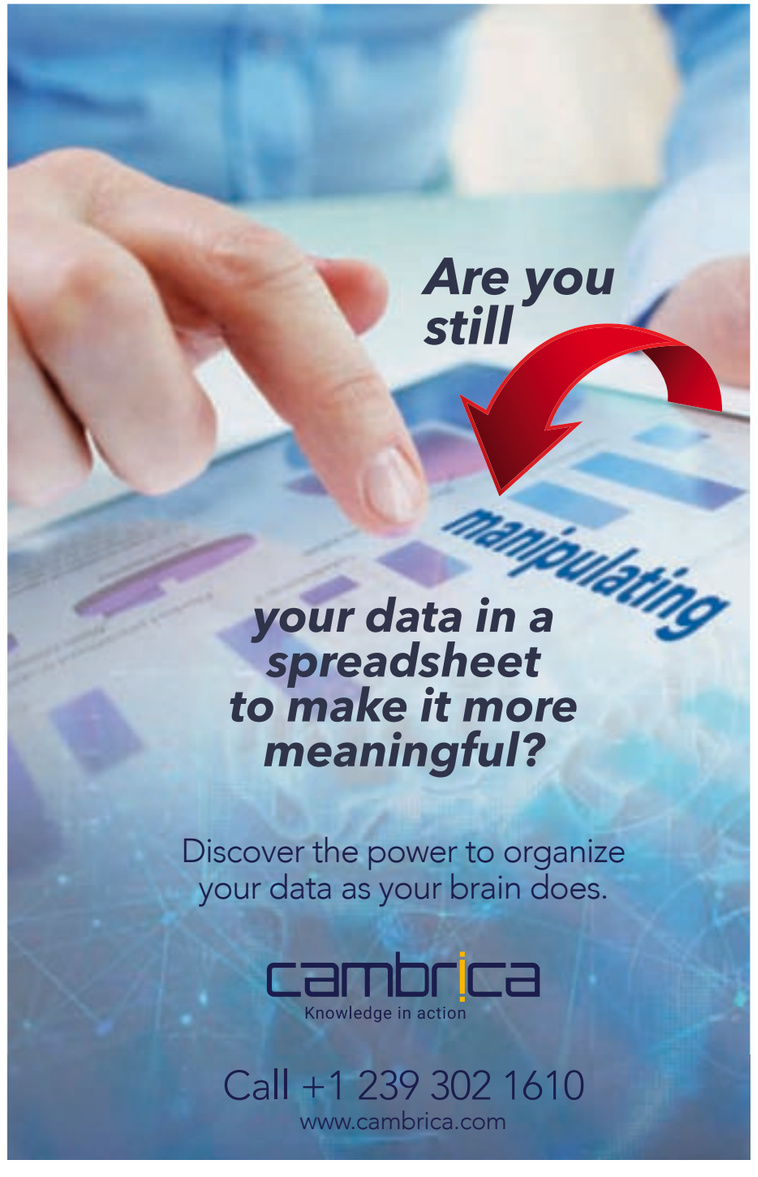
Indeed, the Hycorr will accommodate its customers' e-commerce packaging demands and more, but instead of making another investment in a digital press, all Opus Packaging operations have been farming out requests for digital work. "We've decided to hold off on digital because it is changing so quickly," says Manor. "It seems like every time we look at a machine, there is already a new version of it coming out. There seems to be a lot of capacity in the marketplace to run digital, so it makes sense to continue farming it out for now. We see digital as something we want to be in one day but we're waiting for the market to stabilize a bit."

Sticking to its time-tested and proven sheet plant model, Opus Packaging does not have a corrugator in any of its five locations, nor is it a member of a sheet feeder consortium. The company gets its sheets on the open market, primarily from CorrChoice, formerly Michigan Packaging Company, of which Stoner was president.

More Growth

So how do these two corrugated industry veterans manage five sheet plants, dozens of pieces of equipment and approximately 350 employees across four states? "We have very good people in all of our plants that keep this going," says Manor. "We keep in touch throughout the month and have formal meetings – now on Zoom – every couple of weeks to go over financials and results. We've got a great team – our COO, CFO, Human Resources Director and the people around them – which has allowed us to acquire great talent."

Amtech's Imaginera Software and



Opus Packaging's five-color Hycorr diecutter in the New Bremen, Ohio, facility.

Power BI, a Microsoft product, keep all Opus Packaging's facilities connected efficiently, while allowing room for more expansion and across-the-board growth. Since 2011, Manor and Stoner have grown Opus Packaging 100% through internal organic growth and the aforementioned acquisitions. They are still in "growth mode" and say they want to continue growing in the Midwest, but that doesn't mean they aren't looking in other parts of the country, as well.

Like other box makers across the country, Opus Packaging has been impacted by COVID, especially during April and May, when the virus was spiking in the Midwest. "We're coming out of it now and we're seeing record levels of sales across all our companies, so much so that it's been hard to keep up with demand," says Stoner. "And it's largely been industry specific. Manufacturing is coming back very strong and most of our customers in that segment seem to be returning. Some of our automotive customers are lagging behind, but that is also improving as time goes on."

> "Our fathers taught us that customer service is at the heart of everything we do," says Kevin Manor.

"Our philosophy is to build a team around us – it can't be all about us going forward, which is why we've hired some amazing people with a lot of industry experience, some whom we've known from our time in the industry," says Manor. "We're getting really good at integrating new acquisitions into our family and we're always looking for new opportunities, for example, acquiring the company of an owner who wants to retire in three to five years and who has no succession plan. We'd like that person to stay on and run their facility before we would transition new people in as they're ready to retire."

Opus Packaging earned a reputation of having a family-type atmosphere through the establishment of the company's core values, established when their fathers were in the industry decades ago. Butch and Kevin's hopes for the future of Opus Packaging is not only to expand and grow through the markets they serve, but to provide opportunities for learning, growth, and advancement to younger associates well into the future while, of course, building perfect sheet plants along the way. ■

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INCREASING UPTIME

IT'S THE LITTLE THINGS

BY MARK PEYTON

THIS IS THE FIRST IN A SERIES OF ARTICLES BY SUN AUTOMATION ABOUT KEEPING MACHINES IN GOOD WORKING ORDER.

SUN AUTOMATION GROUP®

Keeping all operations running smoothly requires careful and routine maintenance.

A corrugated facility is like a fine watch, featuring hundreds if not thousands of nuanced mechanisms and tasks taking place synchronously. When things are running smoothly, it is truly a sight to behold. Processes and tasks happen at just the right time so as to maximize output and minimize wasted effort or downtime; and every mechanical mechanism is doing exactly what it's supposed to do.

But, when just one small part of the mechanism is slightly off, it can cause a dramatic ripple effect that throws the whole box making facility out of balance, resulting in extra expenses on repairs, lost money during downtime, stressed-out employees working long shifts to try to correct the issues, and frustrated customers who are not receiving their orders on time.

Machines Need Attention And Care

This might sound obvious, but it's worth stating as often as possible: Keeping all of these operations running smoothly is not a matter of luck or coincidence – it's a matter of careful and routine maintenance. Like an annual wellness visit at the doctor's office, or your regularly scheduled maintenance for your car, this routine maintenance is very easy to perform, but also even easier to skip or overlook. While skipping one checkup or even a few checkups may not hurt immediately, it is an unnecessary gamble, as preventive maintenance is always easier, less urgent, and less expensive than reactive maintenance following a major issue.

What might not be as obvious is how a few extra (often overlooked) steps in your routine maintenance can make a huge difference in how your machines run...and the quality of their output.

Three Simple Tips

Keep your machines and your facility clean

Corrugated manufacturing produces a lot of dust and debris. People who spend a lot of time in these facilities quickly become accustomed to dust and buildup around the facility, but it is important to consider how it can affect equipment. Buildup of dust from the cutting process for instance, can become caked onto fans, ducts, and other components. This issue is exacerbated by humidity in the facility, either caused by the climate of the facility's location, or humidity inside the plant caused by different types of equipment – namely resulting from the steam from the corrugator.

It is important to regularly clean the debris off of this equipment, particularly fans. It is also crucial to remember that buildups of dust and other debris can happen in parts of the equipment that are not easily visible to employees, so there must be a directed effort to regularly check for and remove such buildup inside of the machines and in hard to reach spots. It is also important to actually collect the dust when cleaning, as opposed to just blowing the machines down, as blowing the dust simply moves it to another location within the facility. Because most machines are using vacuum transfer, the blown away dust will end up getting drawn back to the machines, making the effort spent cleaning it up a wasted effort.

Lubrication

The origin of the expression "It works like a well-oiled machine" is easy to pinpoint. Proper lubrication is what prevents mechanical components from grinding against each other and breaking or damaging motors, gears, or other delicate and highly important parts of the machinery. Most plants pay careful attention to lubrication of new machines, but it is easy to forget that older seemingly indestructible machines need to be lubricated on a regular basis as well in order to keep them at their best.

When in doubt, read the manual

Modern machines require a lot more nuance and attention than simply walking around the plant floor with a 5-pound mallet. With the increased and diversified capabilities of modern machines, along with new components necessary for some of the automation taking place, maintenance teams and facilities managers may be unaware of some of the components and upkeep schedules. It is a great practice to use the OEM manuals to develop a checklist and schedule for keeping things in proper working order.

Uptime is the core focus of machine maintenance. Although equipment does periodically break down without warning, in most cases, issues can be anticipated and prevented with regular maintenance and diligent upkeep. Over the course of the next five issues, we will highlight a number of different specific ways to keep your equipment in good working order, and ultimately preserve uptime and maximize revenue. ■

Modern machines require a lot more nuance and attention than simply walking around the plant floor with a 5-pound mallet.

Mark Peyton is the Director of Aftermarket at SUN Automation Group. He brings decades of industry experience and expertise to SUN where he has held many customer-focused positions. Prior to his 20-year career with SUN, he worked for Langston and United. He can be reached at mpeyton@sunautomation.com or 410-472-2900.

NORTH AMERICA'S LIGHTWEIGHTING JOURNEY

A NUMBER OF DRIVERS, INCLUDING COST ADVANTAGES AND SUSTAINABILITY, POINT TO AN INEVITABLE TREND TOWARD LIGHTWEIGHTING.

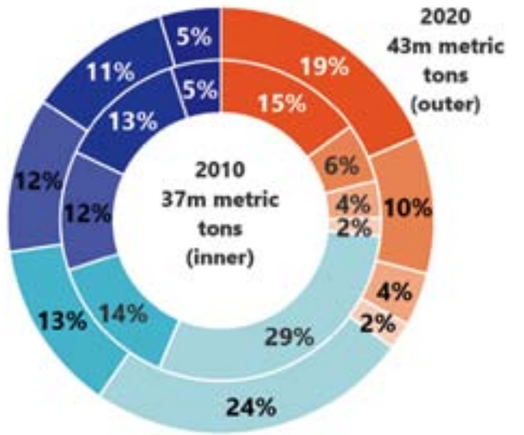
BY XINNAN LI
RABOBANK

Containerboard in North America weighs 20% more on average than its European counterpart, and the lightweighting journey has been painfully slow. Challenges such as market concentration, high share of virgin fiber, and outdated physical assets have created major headwinds. However, a number of drivers point to an inevitable trend toward lightweighting, including cost advantages and sustainability. North American players should take advantage of this trend and be proactive to protect their margins.

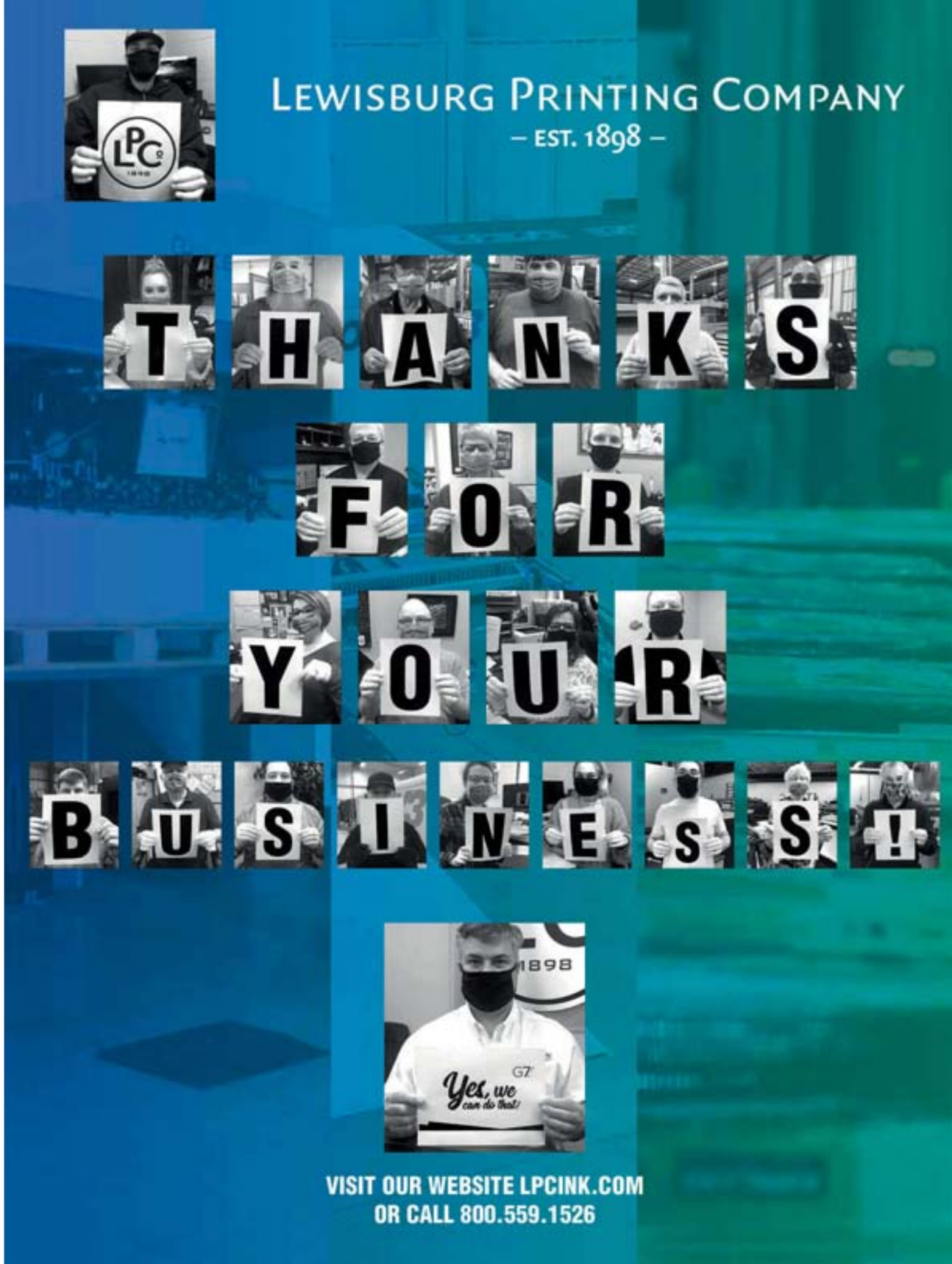
Just as healthy weight loss remains a popular topic among consumers, it is also gaining traction within the containerboard sector. In North America, regular linerboard is usually produced at above 32lb/1,000ft^2, while lightweight linerboard typically ranges between 26lb and 32lb/1,000ft2. Ultra-lightweight containerboard is also produced, mostly in Europe, at weights as low as 18lb/1,000ft^2.

After falling behind Europe for years, lightweight containerboard is finally gaining momentum in North America (see Fig. 1).

Figure 1: North America containerboard capacity by grades, 2010 vs. 2020



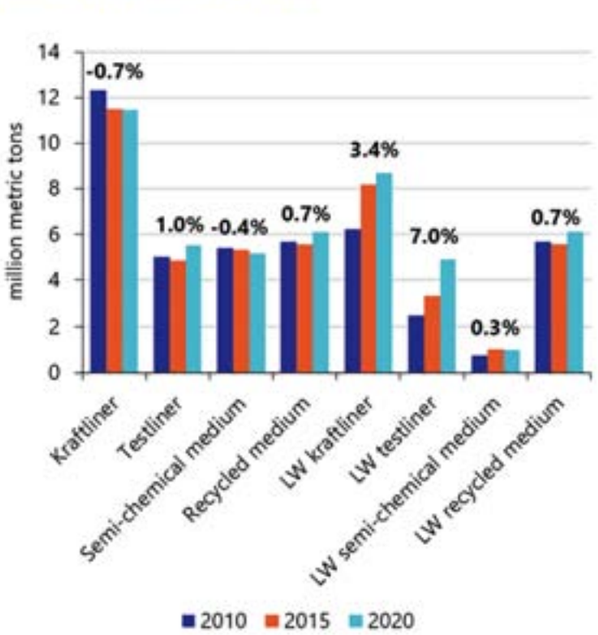
Note: Capacity includes Mexico.
Source: RISI, Rabobank 2020



> Reducing weight can help reduce fiber costs for brands, an especially important benefit given the recessionary economic environment we will be in the coming months.

Roughly 35% of total containerboard capacity in North America was lightweight compared to 50% in Europe in 2020. Capacity for lightweight containerboard in North America grew 4.1% in the past decade, outpacing overall sector growth of 1.2%. Among the lightweight grades, lightweight recycled linerboard registered the highest growth at 7.0% CAGR, while virgin lightweight grades have not shown similar success (see Fig. 2). New capacity addition projects, especially in recycled grades, often include lightweight paper machines, making them the leading growth grades in this sector.

Figure 2: North America containerboard capacity growth by grades, Q1 2020



Source: RISI, Rabobank 2020

Key Drivers

There are many factors driving the shift toward lightweight. First and foremost among these are the rationalization of containerboard basis weight and shedding of excessive fiber and the associated costs. According to the International Corrugated Case Association, North America linerboard weighs around 20% more than European counterparts. Two-thirds of North America's market is made up of high-quality virgin fibers and can already offer higher fiber strength. Strong virgin fiber coupled with heavier weight can thus be excessive in some applications. Reducing weight can help reduce fiber costs for brands, an especially important benefit given the recessionary economic environment we will be in the coming months.

Next, a growing number of recycled players in the North American market have accelerated the lightweighting trend. These players, mostly independent and often new entrants, are using lightweight containerboard as a competitive advantage in the highly consolidated and integrated market. Between 2017 and 2022, over 25% of new containerboard capacity in North America is expected to come from new players, a powerful shift in the competitive landscape (see Fig. 3). This, coupled with imported lightweight containerboard from Europe, is a disruptive force.

> New capacity, especially in recycled grades, often include lightweight paper machines, making them the leading growth grades in this sector.

Third, new technologies to improve board strength enable containerboard manufacturers to go lightweight. New fiber processing techniques and additives can alter the fiber structure or how fibers bind to each other. With these new technologies, similar strength can be achieved with lower-quality fiber (e.g. recycled) and less fiber. This will position lightweight containerboard at a significant advantage over traditional counterparts.

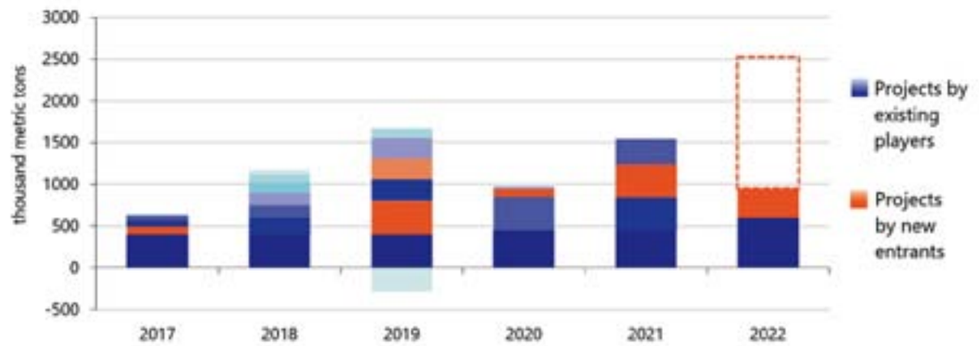
And lastly, sustainability initiatives are motivating brands and retailers to find ways to reduce packaging, and lightweighting fits the bill perfectly. Sustainable packaging has been one of the key priorities for domestic and multinational brands and retailers, such as Coca-Cola and Amazon. Efforts such as right-sizing corrugated boxes and lightweighting can significantly reduce containerboard used, while also reducing the shipping weight and related emissions. With more brands and retailers setting aggressive packaging reduction goals, pressure from off takers for lightweight solutions will be a key factor.

A Few Headwinds

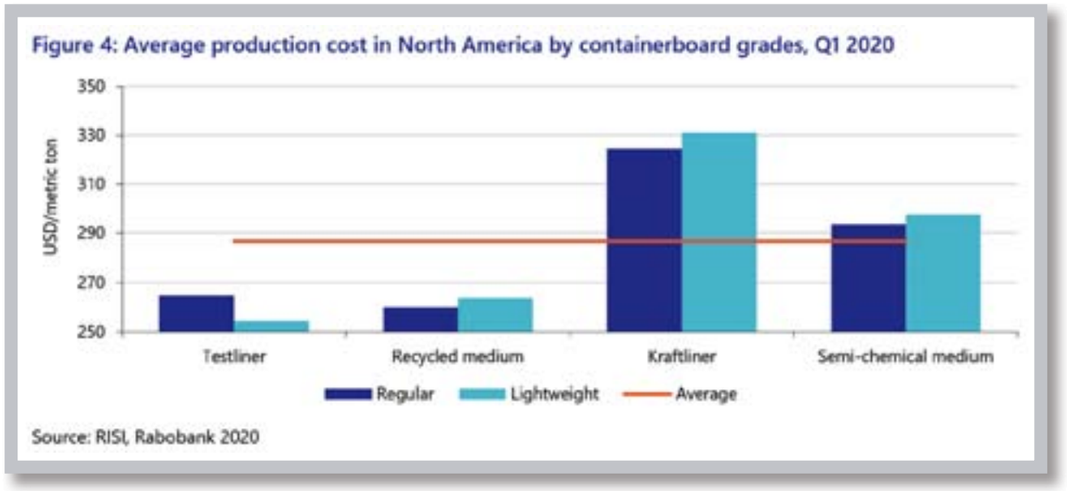
Just like any weight loss, lightweighting in containerboard doesn't come easy. In addition to the traditional view that heavy weight equals premium quality, lightweighting is accompanied by a whole suite of challenges.

First, the North American containerboard market is extremely

Figure 3: New capacity addition projects in North America, 2017-2022



Source: company announcements, Rabobank 2020



Such a degree of vertical integration means that manufacturers are not motivated to sell lightweight, whose shipments are often calculated by weight.

consolidated, with the top four players, all of which are vertically integrated kraft liner manufacturers, accounting for 68% of the total capacity. They hold only 18% to 40% share of lightweight containerboard individually, which is less than the regional average of 44%. The conversion space is highly integrated as well, and the number of independents is shrinking each year. Such a degree of vertical integration means that manufacturers are not motivated to sell lightweight, whose shipments are often calculated by weight.

Furthermore, greenfield and conversion projects only started to happen in recent years, and the majority of North American manufacturers operate older machines throughout the supply chain. Older machines are often not able to handle lightweight or thinner boards and may require significant modifications to be compatible. These modifications come at a price that not every manufacturer is willing or able to pay. We expect this to create major headwinds as overcoming the hurdles of changing physical assets can be a slow and expensive process.

Lastly, lightweight is not as cost-effective for kraft producers as it is recycled producers (see Fig. 4). While lightweight recycled liner on average has a 4% cost advantage per metric ton, lightweight kraft liner costs 2% more per metric ton. This price difference can be offset when comparing board area rather than weight, but the cost advantage for lightweight boards disappears. Even though recycled capacity is fast growing in the U.S., virgin fiber still dominates the industry. As long as this continues to be the case, it will be difficult for lightweighting to progress significantly in North America.

Future Outlook

We believe that there are significant drivers of containerboard lightweighting in North America. Though the weight-loss journey will be difficult and slow, we expect it to be inevitable. As lightweight containerboard is typically viewed as a less expensive option, especially on an area basis, it will exert margin pressure on the rest of the industry.

Fiber is the largest cost in manufacturing containerboard and can take up to 50% of total costs in virgin grades. Reducing the fiber cost can thus prove essential in the long run. As a recession is underway, North American players could be proactive and improve their offerings in lightweight grades in order to protect their margins. ■

Xinnan Li is an analyst within RaboResearch Food & Agribusiness, focusing on F&A supply chain research. She joined Rabobank in 2015. Previously, she held internships at General Mills in China and Sam's Club in Arkansas. She can be reached at xinnan.li@rabobank.com

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HP PageWide C500 Press

THE BOXMAKER EXPANDS DIGITAL FOOTPRINT

THE SECOND HP PAGEWIDE C500 WILL BE INSTALLED AT THE NEWLY-ACQUIRED TANGO PRESS FACILITY IN ARKANSAS.

The BoxMaker, a leading manufacturer of digitally printed packaging based in Seattle, Wash., has purchased a second HP PageWide C500 press to add capacity and launch a nationwide expansion. The multi-million-dollar investment makes the board converter the first in the world to operate two HP C500 presses for flexible, on-demand direct-to-board production of corrugated boxes with offset quality print using true water-based inks.

"The HP C500 has proven valuable to both our business and our brands, playing a key role in doubling our business volume for digitally produced packaging and display," says Richard Brown, President and Co-Owner of The BoxMaker. "Digital print technology enables our client brands greater flexibility for quick turnaround times, high-impact designs for multiple SKUs, and the ability to engage consumers with marketing promotions directly integrated into their packaging."

The new press will be installed in Springdale, Ark., at recently acquired Tango Press, an all-digital production plant for corrugated packaging and displays. Opened in 2016, the company has a reputation in the marketplace for providing high impact packaging and displays that meet customers' needs, timeframe, and price points.

"The acquisition of Tango Press is a perfect complement to The BoxMaker and our web-to-print brand, Fantastapack.com. This addition gives us the opportunity to expand our reach and improve product distribution for digitally printed and finished packaging to businesses throughout the United States," says Brown. "As an all-digital production plant, Tango Press' business model and culture are a natural fit for The BoxMaker and we look forward to the expanded benefits that our combined facilities will deliver to clients."

John Ballentine, President and Co-founder of Tango Press states, "The combination of Tango Press and The BoxMaker will be a huge step in the advancement of digital printing and converting for the future of the packaging industry. By leveraging the best-in-class equipment, operations, people, service, knowledge, and technology we will be able to extend our offering and hasten our speed to market, allowing us to serve our customers' needs better than ever."

Ballentine will continue in a leadership role at Tango Press and the existing team will remain on staff.

This acquisition is part of a planned multi-million-dollar investment by The BoxMaker to effectively address growing demand in the market for digitally produced packaging and displays. "In addition to acquiring Tango Press, we are making significant equipment investments in both locations to deliver best-in-class products to clients across the country," adds Brown.

This acquisition is part of a planned multi-million-dollar investment by The BoxMaker to effectively address growing demand in the market for digitally produced packaging and displays.

President and Co-Owner Richard Brown at The BoxMaker's Packaging Experience Summit.

Web-to-Print Platform

Fantastapack.com enables businesses to easily design and order high-graphic custom packaging online from a set library of box and display styles. The C500 press enables The BoxMaker to digitally print corrugated

John Ballentine (left) gave a tour of Tango Press last year as part of AICC's "Selling Digital Print" course.

The HP PageWide C500 press is a digital post-print solution that enables corrugated converters to reduce the cost of manufacturing boxes in scaled volume production.

orders of any size in offset quality with sharp text and barcodes, smooth tone transitions and vivid colors. The press prints with HP true water-based inks, which allow for the production of boxes with no need for added internal packaging or an extra layer of material separating the corrugated packaging from the product for the food and agriculture industry.

"The BoxMaker continues to lead innovation in packaging with successive investments in HP digital corrugated printing. Choosing a second HP PageWide C500 press is a vote of confidence and a significant step ahead that will enable The BoxMaker to transform the corrugated market with productive, on-demand printing and capture business in this growing market," says David Tomer, General Manager, Post-print corrugated, HP PageWide Industrial.

The BoxMaker, an early adopter of HP digital print technology, also operates an HP Scitex 17000 corrugated press and two HP Indigo web presses for labels and folding cartons.

The HP PageWide C500 press is a digital post-print solution that enables corrugated converters to reduce the cost of manufacturing boxes in scaled volume production. It provides offset print quality for a wide range of corrugated packaging applications on both coated and uncoated paper for a low to high number of sheets. The C500 press brings benefits of digital printing, with no limitation of Minimum-Order-Quantity (MOQ), flexibility, accelerated time to market, and reduction of waste and inventory with no need to compromise on print quality.

"The HP C500 is proven technology that will serve as the print platform to drive our growth strategy as we continue on our journey with HP to transform the market to digital," says Brown. ■

The HP PageWide C500 press provides offset print quality for a wide range of corrugated packaging applications.

TAPPI Corrugated NEWS

SUPERCORREXPO®
"SERVICE TALKS"
VIRTUAL SESSIONS
COMING IN EARLY SPRING 2021

ALSO:
CARLSON RETIRES FROM TAPPI JOURNAL EDITORIAL BOARD

TAPPI Calendar of Events

SuperCorrExpo Service Talks
See more information inside
Register at supercorrexpo.org

Corrugated Technical Committee
March 10, 2021
Virtually via Zoom

Corrugated Technical Committee
March 23, 2021
Virtually via Zoom

Corrugated Packaging Division Council

Appointed Members:

Greg Arvanigian
President
Arvco Container Corporation

Craig Hoyt
CEO
Buckeye Boxes Inc

Bert Hurler
Manager, Engineering & Capital Purchasing

Michael Martin
VP Engineering Services
WestRock

Josh Reich
Sales & Customer Service Manager
Greif, Inc

Glenn Rogers
Mill Division Technical Manager
Pratt Industries

Elected Members:

Greg Jones (Supplier Advisory Chair)
Executive Vice President
SUN Automation

Stephen Burnett (Fiscotec Chair)
Technical Services Manager
Atlantic Packaging Paper Mills

John Semenske (Corbotec Chair)
Midwest Regional Sales Manager for Corrugated
BW Papersystems

Tom Staal
Corporate Quality Manager
Advance Packaging Corporation

Mike Kohler (Young Professional Liaison)
Vice President Sales
Kohler Coating

Division Leadership

Corrugated Division Chairman
Jeff Quinn
VP of Operations
The Haire Group

Corrugated Division Vice-chair and Technical Program Chair
Ed Stuczynski
Director of Engineering
Menasha Packaging

Division Chair Emeritus & Awards Chair
Ell Townsend
Director of Manufacturing Services
Packaging Corporation of Americ

TAPPI President & CEO
Larry Montague

TAPPI Corrugated Packaging Division Account Manager
Kristi Ledbetter

Empower, Commit, Support: A Formula for Success

There is no area of the corrugated packaging industry that Dave Carlson can't tell you a thing or two about. His career, which has spanned 56 years and counting, has covered factory building and supervision; machinery relocation and installation; plant management; technical service on corrugators, starch adhesive systems, and converting machinery; corrugated testing protocols; SPC; quality management systems; ISO 9000; ECT and box compression theory; containerboard properties; freight regulations; and many other areas. Carlson's technical accomplishments are wide-ranging. He has written guidelines used by TAPPI, the Fibre Box Association, and the Uniform Code Council for direct printing of bar codes on corrugated. He was also instrumental in developing TAPPI's SPC video training series and taught TAPPI's SPC education course.

Since 1997, Carlson has also been on the Editorial Board of *TAPPI Journal (TJ)*, marshalling the peer review of new corrugated-area research. "Dave has always been willing to lend his expertise when we had corrugated papers in TJ," says *TAPPI Journal* Editor Monica Shaw. "He has also been very dedicated about sharing his time for editorial board meetings."

After 23 years of service, Carlson is stepping away from his role with *TAPPI Journal*. To mark his contributions, let's meet the man who has dedicated over half a century to building and sharing his expertise about the corrugated packaging industry.

LAUNCHING A CAREER

Carlson holds a Bachelor of Science degree in mechanical engineering and an MBA, both from Northwestern University. His career began in 1964 as an engineer at Container Corporation of America. Says Carlson, "1964 was a great year for someone with my combination of degrees to be looking for a job. I had multiple interviews and got multiple job offers–including CCA, where I ultimately went. I was interested in the technical side of our industry–if machines don't work, why don't they work? Later in my career, I worked closely with the mill division tech directors, visited a lot of mills, and gained a lot of knowledge about that side of our industry."

Carlson remained at CCA until 1973. He subsequently worked at Hoerner Waldorf as an engineer; was manager of quality assurance, first at Champion International and then at Stone Container Corporation; and later as director of quality assurance at Smurfit Stone. The years from 1973 to 2007 involved a series of roles and company name changes, as the industry evolved through mergers and acquisitions.

After his retirement in 2007, Carlson began consulting for the Fibre Box Association (FBA) as technical and environmental manager. He continued in that role until 2017, when he retired again. "Since my second 'retirement' I have maintained my interest in the corrugated field by staying active with organizations that work with standards, establishing test methods and standards, particularly for packaging and boxes."

In addition to his contributions to TAPPI, Carlson has been involved with the American Society for Testing and Materials (ASTM) D-10 Committee on Packaging and its E60 Committee on Sustainability; the Institute of Packaging Professionals' Chemical Packaging Committee, which deals with transport and packaging of hazardous materials; and the Materials Handling Institute' MH10 Committee, which deals, in part, with packaging, including bar code printing.

For corrugating pros, Carlson's name may be most familiar from a byline. He has published articles in *Paperboard Packaging*, *Package Engineering*, *Flexo*, and *International Paperboard Industry*, as well as in *Corrugating International* and *TAPPI Journal*.

"I turned 81 in December, and I still have a lot of fun; I'm just about as busy as I ever was," he says. "I still enjoy associating with my industry colleagues, whether via Zoom recently or at in-person meetings, when we were able to do that."

Dave Carlson

TAPPI CORRUGATED PACKAGING DIVISION

TIME WITH TAPPI

In 1978, Carlson became a TAPPI member, as a part of what was then the Corrugated Division. "I joined TAPPI to expand my knowledge of the corrugated board manufacturing industry and to be able to interact with industry leaders. Those expectations have been exceeded many times over," he says.

After attending his first TAPPI meeting in 1980, Carlson's involvement quickly increased: "I was immediately made secretary of one of the subcommittees of the Corrugated Division; six years later I had cycled through the officer positions of that committee, and the next year Division leaders asked me to be the Division Chair."

TAPPI brought Carlson many opportunities to serve the industry. In addition to the Corrugated Packaging Division, he filled leadership roles on several quality- and corrugated-related committees. In 1995, Carlson was awarded the TAPPI Corrugated Containers Division Leadership and Service Award. He was elected to the TAPPI Board of Directors in 1997 and in 2000 was named a TAPPI Fellow–one of the association's highest honors. His many other honors include the 2006 Herman L. Joachim Distinguished Service Award in recognition of his dedicated service to TAPPI and the industry, and TAPPI's Corrugated Packaging Division's Lifetime Achievement Award in 2010.

He credits former TAPPI President William Otto Kroeschell for getting him involved with *TAPPI Journal*. "Bill Kroeschell was getting ready to retire, and in those days, the Corrugated Division's management team was responsible for selecting the division's representative on *TAPPI Journal's* Editorial Board. We had worked on TAPPI's Corrugated Division's 40th anniversary book together, so he called me and asked if I'd like to join."

Carlson was technical editor of TAPPI's *Corrugating International (CI)* Magazine from 1997 to 2007, and a member of the Editorial Board of TAPPI Journal from 1997 through 2020.

"Dave was supportive and encouraged TJ to expand into coverage of nano and biorefinery areas," comments fellow TJ Editorial Board Member Peter Hart. "He was always willing to share his perspective on corrugating topics. Dave has been quite vocal on the decline in fundamental research in both the corrugating space as well as in the general pulp and paper arena, and a constant contributor to Editorial Board meetings."

TAPPI Journal's new Open Access platform is going to benefit the industry, says Carlson. "It will make research more widely available. While we need more research in the corrugated area, there are a lot of really excellent researchers right now, especially in nano, biofuels, and some mill productions techniques – there are good people doing high-quality work."

What would he advise for authors hoping to publish in *TAPPI Journal*? "As an editor, I first looked for what was interesting to me; second, what was presented clearly; and then, what would make a good contribution to the progress of the industry."

THE CHALLENGE FOR CORR RESEARCH

In the corrugated industry, one of the most technically significant changes has been an evolution of packaging regulations. "Regulations have changed from strictly burst and basis weight to performance measured by edge crush (ECT)," he says. "Now mills are getting pretty darn creative–I don't think any two mill companies make the same stuff anymore! That makes it harder for packaging engineers and packaging designers and customers; it's not about the board combination anymore; it's about 'What does this box need to DO?' Right now, I think most of the major producers are looking at this idea of what a box needs to do, and how to meet those requirements given the capabilities of their paper machines, to get the most economical package to the customer."

It's a positive evolution, Carlson suggests. "It will be best for our industry; best for our customers, in terms of getting the most economical packaging; and best for our environment, in terms of how can we adequately utilize our resources to meet the needs of our customers and the public who are buying products packaged and delivered in corrugated."

To support much-needed further research, Carlson suggests that the industry use the "consortium approach" that has been successful in earlier decades. "We need to bring together research organizations like the Forest Products Labs with corrugated companies. If anything can happen to speed along the research process, consortium-type action is the thing. No one company, even IP or WestRock, is too big to benefit by contributing to independent research that would benefit all of us."

ADVICE FOR YOUNG PROFESSIONALS

"I was fortunate to start out with an outstanding mentor," Carlson says. "His name was Macon Dalton. He was tough and smart, a Southern guy out of the Carolinas. He was an engineer, so we got along."

Having a mentor was critical to his experiences early in his career, says Carlson, and it's one of the things he recommends for young professionals. "First, when you're interviewing for a job, you've got to like what you see. As they say, if you're doing something you like, you'll never work a day in your life. And in the interview process, when you're talking to the person you're going to work for, ask yourself: is that person going to be a great mentor?

"Another thing is, look around and see what you can do about enhancing your technical knowledge outside of your own company. Finally, along the way, you'll need to decide how you can start giving back."

For Dave Carlson, TAPPI has been a big part of that. "I got to know an awful lot of fine people who I could call on for help if I needed it, and they called on me. That's one of the most rewarding things about TAPPI: The ability to obtain knowledge, and the opportunity to help share more of that knowledge over the years."

Jan Bottiglieri is the editorial director for Paper360 Magazine, and has been writing about the pulp, paper, and packaging industries for more than 30 years.

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Details and registration at:
supercorrexpo.org

TAPPI AICC
SUPER CORR EXPO®

The Industry Is Talking about SuperCorrExpo's Tech Talks

Phase II of the highly attended series arrives in early 2021

SuperCorrExpo® (SCE), the industry's most powerful corrugated event in the western hemisphere hosted jointly by TAPPI and AICC, launched its highly anticipated virtual learning series, *"Tech Talks: What's New,"* in September 2020. The six-week series focused on new technologies benefitting the industry which were introduced over the last year. Nearly 300 people attended the 10 webinars which featured multiple seven-minute presentations followed by live question and answer sessions.

Series Quickly Became Industry Information Resource

Forty-six leading industry companies participated in Tech Talks, presenting on topics ranging from artificial intelligence (AI) and 3D training to new machinery designed to increase efficiencies and reduce downtime.

Ed Stuczynski, Director of Engineering, Menasha Packaging Co., LLC noted, "I enjoyed the Tech Talks series because it gave a short and concise look at what companies are working on. In one hour, I heard from five different companies, and it was a good use of my time. I look forward to seeing the companies next year at SuperCorrExpo and learning more."

The series wasn't only beneficial to plants and producers either. Presenter **Roman Skuratowicz**, Senior Project Leader NA, Industrial Applications, Ingredion Incorporated, said: "As a SuperCorrExpo exhibitor, Ingredion appreciated the opportunity to reach our customers through the series. It was disappointing that we couldn't meet in person at the show this year, but we were still able to present to a large audience virtually. We also like the fact that our presentation is posted on the SCE event website throughout the next year to give us additional exposure."

Phase II Series in Development Now

TAPPI's Corrugated Division Manager Kristi Ledbetter acknowledged the success of Tech Talks, saying both presenters and audience participants expressed high satisfaction in a post-event survey. "All presentations for which we have permission to post are now available for viewing on the supercorrexpo.org website," she noted, "as is a complete list of participating companies."

According to Ledbetter, a brand new interactive series is under development for release in early 2021. This additional segment will feature webinars comprised of five-minute presentations from SCE 2021 exhibitors highlighting specific service(s) as opposed to new technologies or equipment. As done previously, the presentations will be followed by live question and answer sessions, providing participants the opportunity to engage with the exhibitors, and one another, in a chat format.

For more information, visit supercorrexpo.org.

VIRTUAL SERVICE TALKS
SUPER CORR EXPO® TAPPI 2021 AICC

SuperCorrExpo® 2021 Presents "Service Talks" Virtual Series

Five minute presentations from SuperCorrExpo exhibitors who provide services to the corrugated industry.

Beginning in early 2021!

Visit supercorrexpo.org for more details

TAPPI CORRUGATED PACKAGING DIVISION

TAPPI Technical Committees to Hold 2021 Spring Meetings

The **Corrugated Testing Committee (FISCOTEC)** will hold its annual spring meeting virtually on March 30, 2021. The meeting is open to all TAPPI members who have an interest in Standards and Test Methods for the corrugated industry. This is a critical committee for the industry, and an excellent way to get in on the ground floor of creating new Standards, or preserving the existing Standards and Test Methods that are so widely used. If you would like to become a member of this committee, or simply have questions related to the focus of the meeting, please contact FISCOTEC Chair Stephen Burnett at stephen_burnett@atlantic.ca. The Fibre Box Association (FBA) Technical Committee will hold their spring meeting virtually in conjunction with the FISCOTEC meeting on the same day in March.

The **Corrugated Technical Committee (CORBOTEC)** meets twice each year to exchange ideas related to technical issues in all areas of the corrugated packaging industry. Due to the cancelation of the fall meeting and continued concerns surrounding the virus, the committee has decided to combine the 2020 fall meeting and the 2021 summer meeting into a virtual event on March 10, 2021. The March meeting will include several presentations and the exchange of the popular blue card Q & A. Blue card questions are inquiries that have been submitted anonymously prior to the meeting by people in the industry related to problems or issues they may be having. These inquiries are discussed collectively by the group and solutions are presented. If you are interested in becoming a member of the CORBOTEC Committee, or have questions about the March meeting, please contact CORBOTEC Chair John Semenske at john.semenske@bwpapersystems.com.

Both of these important committees provide the opportunity to learn and interact with peers and colleagues in a technical environment. We encourage attendees to be TAPPI members but welcome first time visitors also. There is no charge for the meetings but it is requested that you notify Kristi Ledbetter at kledbetter@tappi.org if you would like to attend so that you receive the Zoom link and documents pertinent to the meeting.

For additional information on ways to get involved with the TAPPI Corrugated Division, visit www.tappi.org/corr or contact Kristi Ledbetter at the email listed above.

TAPPI Supports the Next Generation of Corrugated Packaging Industry Leaders with More than $50,000 in Scholarships

Each year, TAPPI is proud to offer multiple scholarship opportunities to graduate and undergraduate students in corrugated and packaging related programs. There are several Technical Division Scholarships totaling more than $50,000 available for academic year 2021-2022. Applications are due **February 15, 2021**.

TAPPI Corrugated Packaging Division Scholarships include:

- $10,000 from the Terry S. Paulson Memorial Fund which will provide two $5,000 scholarships for students pursuing careers in maintenance or engineering for the corrugated industry.
- $5,000 from the Joe Dieffenbacher Engineering Memorial Fund which will grant one $5,000 scholarship to a student pursuing a career in engineering for the corrugated industry.
- Five additional $1,000 scholarships which will also be presented and are sponsored by the Bobst Group, Mitsubishi Heavy Industries, TAPPI Corrugated Suppliers, the TAPPI Corrugated Packaging Division, and WestRock.

In addition to the Technical Division scholarships, TAPPI offers the William L. Cullison Memorial Scholarship, in amounts of up to $4,000, for undergraduate students majoring in pulp and paper science. The deadline to submit applications for academic year 2021-2022 is also **February 15, 2021**.

TAPPI encourages students to apply for all of the scholarships for which they may qualify.

Scholarship application requirements vary by Division and a general information form must also be completed.

Contributions are being accepted to continue to fund the Terry S. Paulson Memorial Scholarship and the Joe Dieffenbacher Engineering Memorial Scholarship. If you would like to contribute please visit www.tappi.org/paulson or www.tappi.org/dieffenbacher or contact Kristi Ledbetter at kledbetter@tappi.org for more information.

To access scholarship applications and division specific guidelines visit www.tappi.org/scholarships or contact the Awards Department at scholarships@tappi.org.

Terry S. Paulson

Joe Dieffenbacher

MAINTAINING YOUR STARCH LOOP

CLOGGED LINES CAN LEAD TO INADEQUATE OR IMPROPER STARCH APPLICATION, DIRECTLY AFFECTING THE QUALITY OF THE BOND.

BY FREDDY RAMSEY AND TODD NELSON
HARPERLOVE

We don't often think about the condition of our starch lines. They are usually out of our sight and not on our mind until an issue arises with the starch supply. If the flow in the starch lines is restricted, the dosers, the day tanks, or even the glue pans may run out of adhesive. Restrictions in the flow can also stress the pumps. Overworked mechanical pumps can trip breakers or even burn up; overworking an air pump can damage the diaphragm and induce air into the adhesive causing foaming issues. Foaming can then affect the starch level probes in the glue pans. All these issues can lead to inadequate or improper starch application, and this will directly affect the quality of the bond.

Most plants do not have a daily cleanup routine for the starch system,

A common mistake is to circulate the cleaning solution through the starch loop, but not through the entire system.

so they depend on the end-of-the-week cleanups to keep the starch loops and drops to the singlefacers and glue machines clean. In many cases, the weekly cleanup is inadequate.

Daily cleanup of the mixer is imperative to ensure the weight of each ingredient in a batch is within specification. A good time to do the daily cleaning is when borax is added to the hopper and the system is put into "No Batches" or "Hold" mode. Clean the mixer with a water hose and be sure to spray around the top of the mixer. Residue and splatter on the sides of the mixer can be washed off more easily if the mixer is washed daily. It is important that operators be trained on how to discharge the wash water properly.

At the end of the week, the storage tanks should be used to flush the starch lines with wash-up water. The tanks should be alternated so each one gets washed at least every other week. Make the appropriate amount of wash-up solution and circulate it through the loops. A common mistake is to circulate the cleaning solution through the starch loop, but not through the entire system. A flowing liquid will take the easiest route with the least restriction. In this case, that would be the starch loop.

It is extremely important to make sure that when flushing the starch lines, you include the mixer, storage tanks, day tanks, dosers, infeed lines, supply pumps, valves, and pans. On the outfeed side, we again want to include all the lines, valves, and return pumps. One batch of water may not be enough to flush through the entire system. Extra wash-up water can be kept in the storage tank that is not in use to keep it clean.

Debris from line cleaning

This cleanup procedure must be done weekly to ensure the system is kept clean. If not done regularly, more starch may build up in the lines than can be removed with a simple wash procedure.

Some plants add bleach to the water used to wash and flush the starch lines. Every plant should know the environmental impact of their particular cleanup solutions and should dispose of the discharge properly. While water with bleach will flush liquids from the lines, kill bacteria, and remove some starch residue, it will not effectively clean hardened starch, excess resin, or other additives. An enzyme-based product like Evolution Starch Off™ will remove starch and resin buildup without corrosive and dangerous caustic or chlorine cleaners. It actually eats away at the buildup in clogged starch lines and loops.

If you have not cleaned your starch lines with a cleaning agent in a while, don't be surprised if you have some minor plug-ups at start after a thorough cleaning. This is telling you that you are breaking up the buildup in your lines. Flushing thoroughly with good clean water will help prevent this condition and provide better startups. Used properly on a regular basis, an enzyme-based starch system cleaner will greatly reduce your starch flow issues. ■

Freddy Ramsey has more than 35 years of experience in corrugator operations, including 10 years serving customers at HarperLove. Prior to HarperLove, he worked with Lin Pac, Stone Container, Temple-Inland, and HBFuller. Todd Nelson has 37 years of operations and leadership experience in corrugator plants working with HarperLove, Smurfit-Stone, RockTenn, and Fruit Growers Supply. He has been with HarperLove 14 years serving customers on the West Coast.

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MIRIAM BRAFMAN
FOUNDER & CEO OF PACKLANE

WE ASK THE QUESTIONS...

BY SARAH BERTRAM MOZINGO

When someone starts a business, their first thoughts might be, "Who will be my customers?" and "How will I create a relationship with them?" For Miriam Brafman, Founder & CEO of Packlane, an online packaging platform, nailing down a solid customer base appears to have come with ease. However, forging strong connections with suppliers and vendors is equally as important, if not more important, than serving global companies like Spotify, Red Bull, and L'Oreal.

"We select primarily based on equipment portfolio and enthusiasm for our business model."

For Brafman, creating a company that filled the niche of short run, custom packaging on demand was the goal. Packlane relies on carefully selected suppliers for approximately 80% of its total production volume, so this goal couldn't have been achieved without a network of contacts who could bring quality and consistent products to the table. The growth of Packlane over the last five years illustrates just how important it is to champion supplier relationships.

Tell me about Packlane's history. When did you start the company and how has it evolved?
I began Packlane in 2015 when I was only 24. It took just a few months to set up the web site and supply chain. I started the company bootstrapped and worked on it as a solo entrepreneur for around one year before I hired my first employee. It is now 50 employees strong and we have served over 40,000 clients.

What was the inspiration for Packlane? I understand you are a web designer by trade; how did you conclude that you wanted to join the manufacturing industry?
I was inspired by online printing companies like MOO, Vistaprint, and Sticker Mule. These are great businesses with design-driven branding, but I didn't understand why these companies weren't looking at creating a similar sales experience in packaging. I started thinking about the opportunity and it really got my creative juices flowing. Because I had an extensive design background, I knew I could build an incredible online experience around this concept and I worked backwards from that vision into the manufacturing.

How do you differentiate your business model from others within your niche of the packaging world?
I think we care more about the customer experience than any other packaging company I know of. I feel that many custom manufacturing companies tend to deflect blame or make excuses for delays or defects. We never pass the buck and always prioritize delighting and exceeding customer expectations.

From what I know about the structure of Packlane, vendors and suppliers are an integral part of your process. How do you go about sourcing and choosing who you partner with?
It happens pretty organically with our Rolodex of contacts in the packaging industry and knowing a lot of the equipment manufacturers that introduce us to suppliers that own their equipment. We frequently reach out to our network to see if there are any new suppliers we

> "Our most successful, enduring supplier relationships are those where the supplier prioritizes frequent communication and takes customer care seriously."

can build relationships with. We select primarily based on equipment portfolio and enthusiasm for our business model.

How important is it to forge strong relationships with suppliers? What kind of communication practices are in place to ensure this?

It is extremely important. Having a mutually beneficial strong relationship where we can grow and prosper together over the long term is foundational to our success. We rely heavily on proactive communication from our suppliers, especially when things don't go as planned. The last thing we want is a black box where we pass along orders and never hear updates or resolutions to problems. Our most successful, enduring supplier relationships are those where the supplier prioritizes frequent communication and takes customer care seriously.

How does the success of your suppliers and your relationship with them affect the success of Packlane?

We've seen noticeable differences in revenue growth and profitability as our supplier network becomes more reliable and performant over time, so the success of our suppliers and our ability to continue nurturing those relationships over time is a critical pillar of our success and we wouldn't be able to scale without it.

Having strong relationships with your customers is also obviously important. Are there any companies that came to you for packaging in the early days who you have witnessed grow over the years?

Populum, a direct-to-consumer CBD company, is a great example. They started with small orders on our platform and grew significantly over time, eventually transitioning to our Packlane Plus division which focuses on large volume custom packaging orders. Over the last several years of working with Populum, we have helped create and transform their unboxing experience, which is very important to their brand as an e-commerce company. Having a reliable, high quality supplier for Populum's production needs has allowed us to retain them as a customer and give them a consistent and enjoyable experience.

Though Packlane is relatively young in comparison to other companies in the corrugated and packaging industries, it has proven to be an innovative powerhouse despite its age. In 2018, the company won Startup of the Year by Startup Grind, a global community for entrepreneurs. That same year, Brafman was named an Upstart 50 nominee by the San Francisco Business Times and was listed in Forbes' 30 Under 30 for Manufacturing & Industry.

Moving forward, Brafman expects to see significant growth in the company as it continues to experiment with new products and revenue streams to satisfy customers and keep suppliers busy. At its headquarters in Louisville, Ky., manufacturing equipment is currently being installed which will double Packlane's output by the end of 2021. ■

> "I was inspired by online printing companies like MOO, Vistaprint, and Sticker Mule."

Sarah Bertram Mozingo is Marketing Coordinator for Complete Design & Packaging, a sheet plant in Concord, N.C. where she manages social media accounts, implements campaigns, and supports the sales team with data and content. She is a regular contributor to Corrugated Today.

If you would like to nominate yourself or someone you know for a One-on-One interview, pleas email Sarah Mozingo at smozingo@completedesignpackaging.com

MARITIME GAINS PRODUCTIVITY

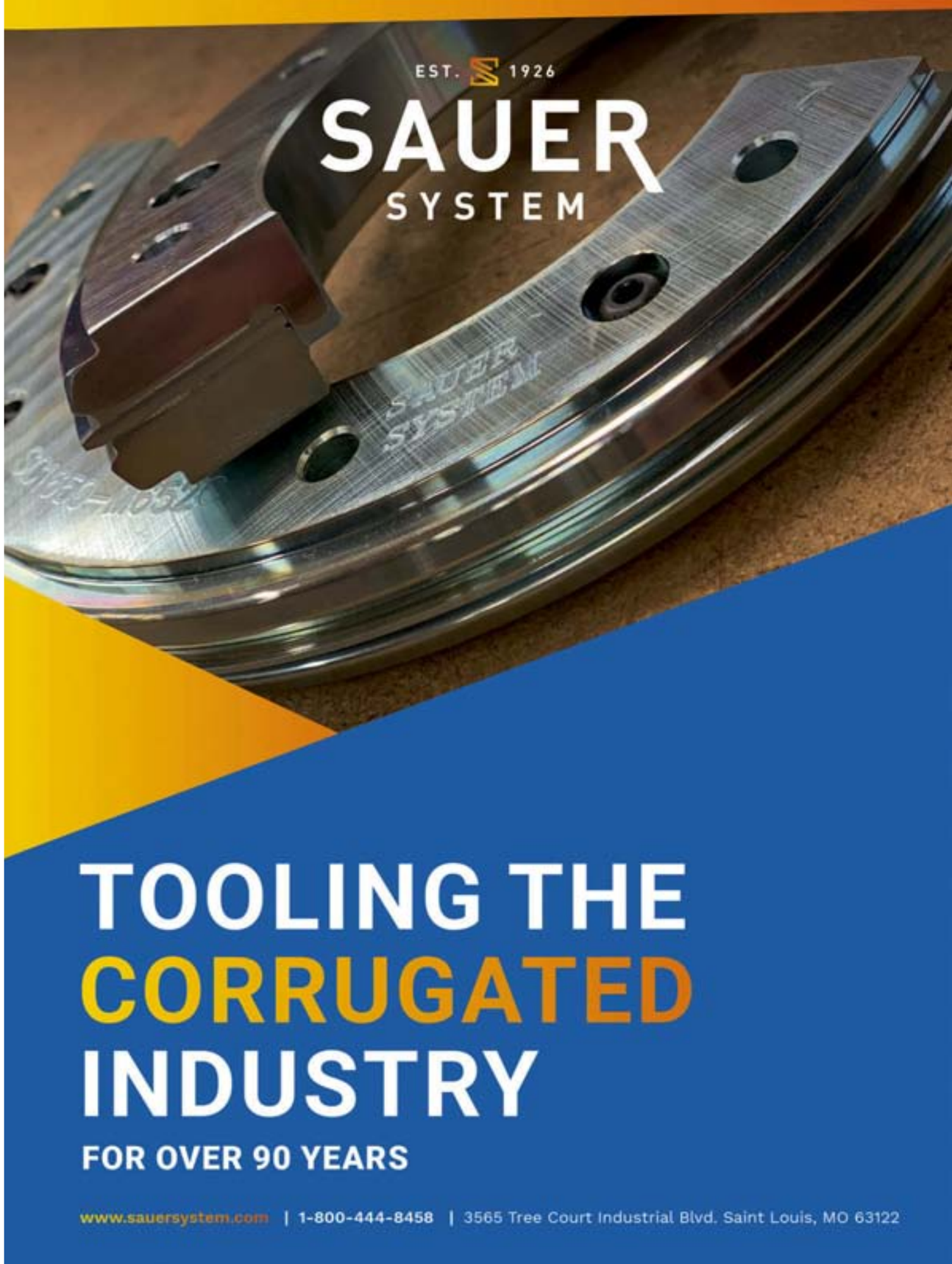
WITH EFI ESCADA PACKAGING CONTROL SYSTEM

Escada Profile is a recipe-based process control management system with closed loop warp control designed to produce the highest-quality boards at optimum speeds.

Mark Doyle, Manager of Capital Projects and Equipment

Maritime Paper Products, a long-time leader among independent corrugated manufacturers and printers in Canada, recently made a significant investment to drive productivity, reduce waste and improve its carbon footprint with the purchase of an EFI™ Escada Corrugator Control system from Electronics For Imaging, Inc. Installed at the board manufacturer's Dartmouth, Nova Scotia, facility, the new system gives Maritime Paper a competitive advantage with the ability to produce higher-quality graphics on superior combined board manufactured with Escada control systems technology.

"We convert a full range of corrugated products throughout our three manufacturing plants and the corrugator is the driver of our performance," says Mark Doyle, Maritime Paper's Manager of Capital Projects and Equipment. "We continuously review all opportunities to improve quality and uptime and the EFI Escada system was on our radar for a long time. It has the best reporting system and the best closed-loop system."



The other product purchased, Escada Syncro 7, is designed to manage the corrugator wet end control functions automatically to allow the dry end to achieve maximum output.

Increased Automation

Maritime Paper, which also uses EFI's CorrTrim® for corrugator scheduling, focused its latest investment on core components of the Escada Corrugator Control product line. According to EFI, Escada Profile is a recipe-based process control management system with closed loop warp control designed to produce the highest-quality boards at optimum speeds and with repetitive consistency.

The other product purchased, Escada Syncro 7, is designed to manage the corrugator wet end control functions automatically to allow the dry end to achieve maximum output. Syncro 7 manages automatic and synchronized splicing, bridge volume control and web breakages to ensure minimal machine downtime and waste. Syncro 7's intelligent speed control functionality will also give Maritime Paper more tools to boost overall production throughput over time.

As a result of the investment in Escada technology, Maritime Paper is poised to reduce its manual operations with increased automation. The system will be installed at the Dartmouth, Nova Scotia, operation, but it will also drive efficiencies at the company's printing and converting facilities in St. John's, Newfoundland, and Moncton, New Brunswick.

Sheldon Gouthro, President and CEO

Improved Sustainability...

"Our number-one goal is to reduce waste, not just in paper but in overall operational efficiency. We estimate our waste reduction with Escada will be more than 10%. With better process control we can increase speed and push uptime on our corrugator and run a more sustainable operation with benefits that trickle down to every area of the company," says Sheldon Gouthro, President and CEO.

"We produce over 150 board combinations. Each has a unique recipe requiring specific run speeds, so this technology will give us the best efficiency and quality of our combined board while making rapid, automatic adjustments without compromising the quality of our board," he adds. "The system develops and saves benchmarks for optimum production so they can be used every time the order is manufactured."

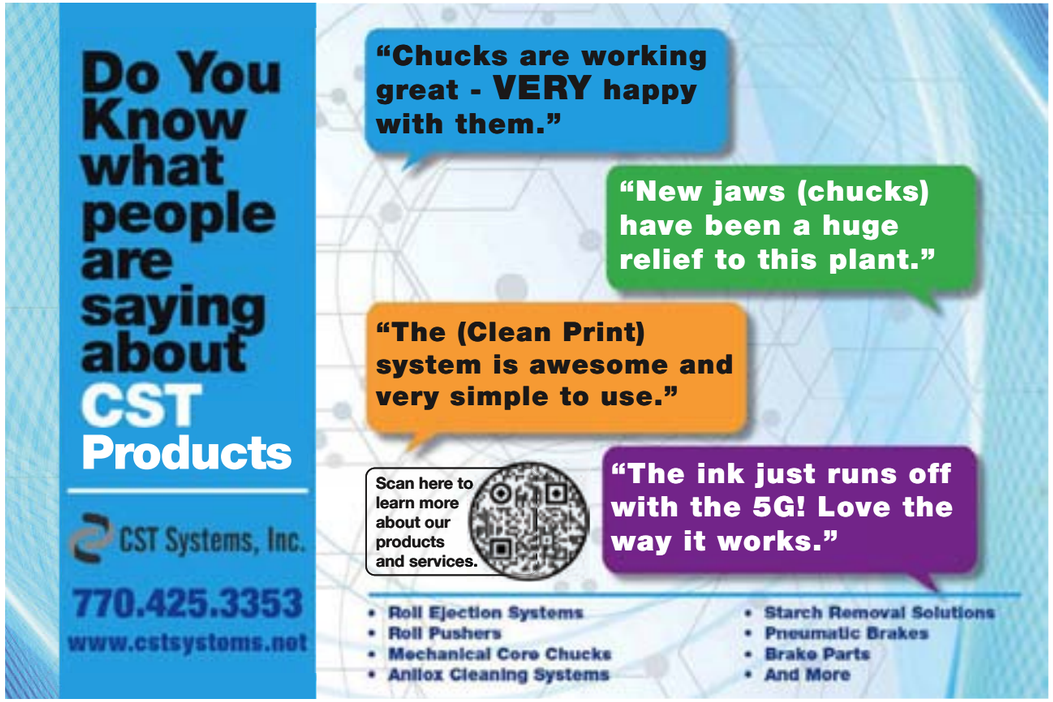
Maritime Paper Products is a leading Canadian independent corrugated manufacturer and printer.

...And Quality

With the growth in demand for packaging, driven by increased home deliveries across all sectors of the economy, achieving high-quality graphics is a competitive advantage that Maritime Paper is looking to exploit with its clients in the food and beverage industries.

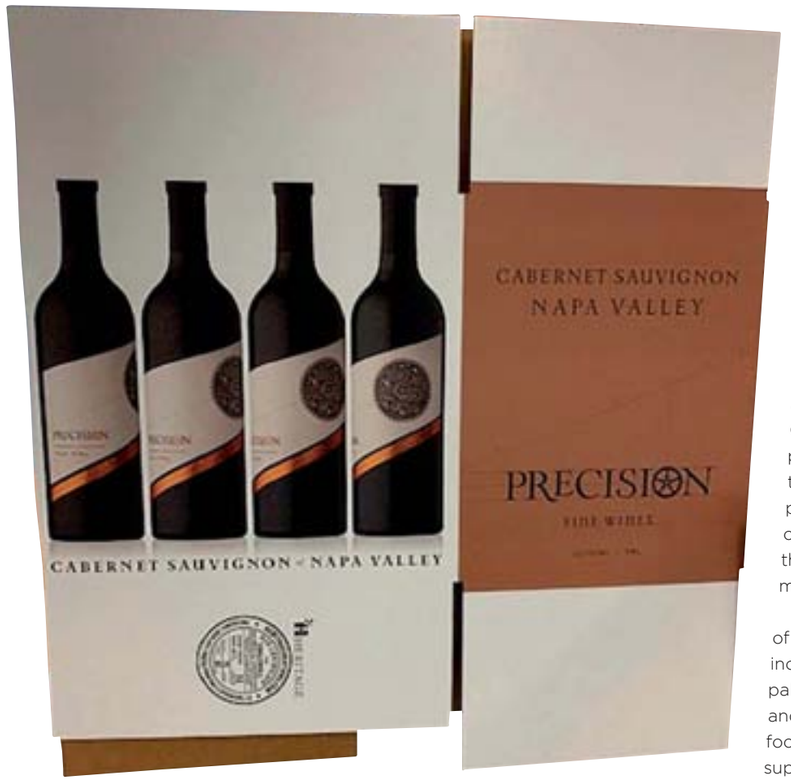
"We print six colors and varnish on corrugated sheets. In order to achieve superior graphics, it all starts with the corrugator," says Doyle, referencing the 98-inch BHS corrugator. "The Escada system will not only calculate the best production factors, it will also calculate the best formula to produce substrates with fewer variations, less warp, and smoother finishes. That will allow us to produce the high level of graphics and superior printing our customers expect. It will definitely be an advantage for us."

Gouthro and Doyle report a strong working relationship with EFI as a partner in helping the company further improve its operations. "This is a big investment for us," says Gouthro. "EFI has shown an impressive level of professionalism and commitment to innovation. They have been very supportive of our processes and helpful on every level." ■



GOLDEN WEST DELIVERS REAL-TIME PACKAGING

WITH NEW HP PAGEWIDE C500 PRESS



Golden West Packaging Group (GWPG), a leading West Coast packaging converter, has launched a new digital corrugated solution that is allowing its wine and beverage industry customers to adopt a new operating model based on speed-to-market and improved sustainability.

Strategically located in California's wine country, an HP PageWide C500 digital corrugated press is operating in GWPG's Livermore location. The high-volume, water-based digital solution is delivering new production agility to fill packaging orders for key clientele in the wine and spirits market segment. GWPG also supplies packaging for agriculture and specialty foods, including a wide variety of products that require agility and speed to market.

"The HP C500 is changing the rules of the game with substantially faster package supply. Our customers now have new freedom and the flexibility to do what they want, when they want it," says Brian Fellows, VP of Sales and Director of Digital at Golden West Packaging Group. "Today, during the pandemic, the demand for fast turnaround combined with production flexibility provides our customers the options they need for an ever-changing marketplace."

GWPG supplies a wide range of digitally printed products, including corrugated cases, trays, pallet skirts, case sleeves, headers, and displays to the wine and food industry. The company also supplies a wide variety of custom boxes for computers, including HP. Customers are located on the West Coast, in Mexico and beyond.

According to Fellows, lead times using the C500 solution can be reduced to 10 working days or fewer, compared to several weeks using traditional methods requiring plates and tooling. In addition, by leveraging its range of digital solutions,

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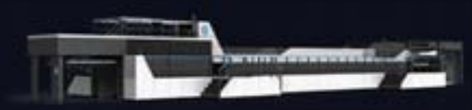

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GWPG can fulfill orders as small as one up to millions.

Direct-to-consumer, subscription and on-line purchases including home delivery, especially for the holiday season, are also driving demand for flexibility in printing that can be fulfilled by digitally printed solutions, notes Fellows. "We don't see how analog methods of printing will be able to keep up with this demand," he says.

The GWPG group includes over 20 creative and structural designers, making it easy for brands to transition to digital. It offers award-winning, in-house graphic design and structural engineering to help customers develop innovative and creative solutions for digital packaging. G7 certification ensures accurate color matching across print platforms and affiliated businesses. "This allows us the flexibility to react to any customer need," says Fellows. The HP PageWide C500 press quality is also comparable and interchangeable with any corrugated print method, delivering sharp text and barcodes, smooth tone transitions, and vivid colors.

The HP C500 also prints on a wide range of corrugated papers including 100% recycled media.

Water-based Inks

The addition of the C500 is adding a further benefit for its sustainability-conscious consumers. The press uses true water-based HP inks that can be used safely for food applications without adding another contact layer. The inks are odorless and free of UV-reactive chemistries and can comply with even the most stringent global food safety regulations, including Nestlé guidance and Swiss Ordinance.

GWPG's 250,000-sq-ft facility is also 90% solar-powered and uses a closed-loop water system so no wastewater goes into the local ecosystem. "This especially resonates with eco-conscious wine and food suppliers," according to Fellows.

The HP C500 also prints on a wide range of corrugated papers including 100% recycled media.

The addition of the industrial-scale press builds on Golden West's experience with high-value corrugated display and high-graphic retail packaging production using its fleet of HP Scitex 15500, 11000 and FB700 presses. ■

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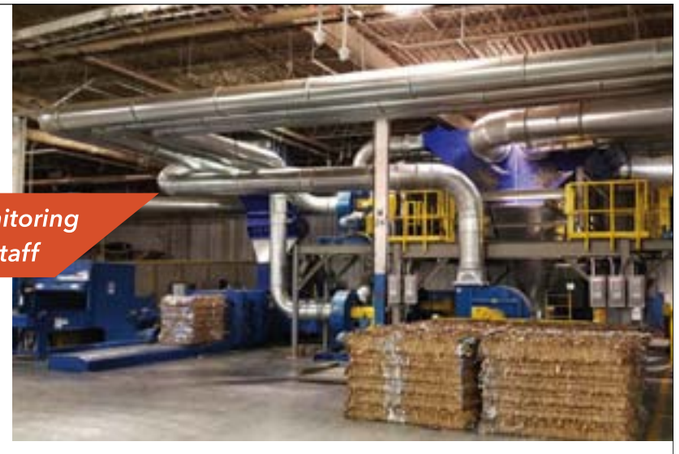

Color Solution For HP PageWide Presses

GMG has launched a new solution for HP PageWide corrugated presses. GMG's color management solutions, most notably GMG ColorServer Multicolor, work seamlessly with the HP One Package Workflow Suite to enable converters to make a smooth transition into digital printing. The color management software helps converters deliver a high degree of color predictability, whether for print production of complex packaging or color proofing. Designed in collaboration with HP, the new solution includes GMG color management software and proofing media, along with training and consulting. Ghelfi Ondulati S.p.A., operating an HP

PageWide T1170 press for high-volume corrugated packaging, has implemented the solution at its site in Italy. "Moving to GMG color management allowed us to significantly simplify and automate the prepress workflow," explained Luca Simoncini, Digital Printing Program Manager, Ghelfi Ondulati S.p.A. "The print output has become predictable and repeatable. I am convinced that this was a fundamental development in our project, and I hope that the collaboration between HP and GMG will strengthen the integration even more."

The new bundled solution offers HP PageWide users optimal and repeatable color results with a proof-to-press match. It provides cost and time savings on test print runs and implementation of jobs, while increasing press capacity. It streamlines profiling and recalibration, while reducing makeready time, automating data conversion, and satisfying customers through correct handling of color expectations.

The GMG Corrugated Solution for HP assures maximum accuracy when converting data from conventionally produced jobs created with industry standards such as FOGRA39 and GRACoL to the color space of an HP digital press. Using GMG ColorProof will also ensure reliability across a range of proofing – and measuring – devices in multiple locations, making it easy to achieve the same print results wherever an HP digital press is located.

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GMG
www.hp.com/go/corrugatedpackaging

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Delta SPC 130 FlexLine Press Updates

Koenig & Bauer Durst has unveiled further updates for its Delta SPC 130 FlexLine Automatic corrugated production press. New water-based orange and violet inks have been launched to ensure food safety compliance for primary packaging and extend the color gamut. New automation features will ensure high productivity and can be integrated into existing customer workflows. Enhanced image quality and special effects, as well as cost reduction, are among the benefits from a new digital primer. New effects that are possible include print embellishment on corrugated board with uncoated media.

The Delta SPC 130 FlexLine Automatic combines a well-engineered mechanical design with easily accessible sub-assemblies and selected components to guarantee durable quality, high performance and reliability. It can manage small formats from 20- x 23-inch through to very large formats with maximum dimensions of 51- x 110-inch and print a maximum thickness of 0.4724-inch with water-based, food safe inks. The machine includes non-stop feeder, four-color single-pass printing, drying and cooling section and non-stop stacker.

The Delta SPC 130 is part of the Koenig & Bauer Durst portfolio of solutions for corrugated converters. The presses meet the stringent requirements for food safe primary packaging using proprietary water-based ink technology and are designed with core technologies to provide automated, productive, food safe printing systems. They are said to deliver shorter response times, more variants, shorter run lengths, individualization and enable more small value orders. They also answer the increasing customer demand for brand security, sustainability and the ability to meet brand owners' requirements for multichannel communication including e-commerce.

FOR MORE INFORMATION
KOENIG & BAUER DURST
www.koenig-bauer-durst.com

Model 32 Score Bend Tester

- A portable testing instrument that measures the initial force required to break the "Score" on a corrugated sheet.
- The 32 SBT offers a "NUMERIC VALUE" to that initial force required to break the Score to the Same Force Environment used on Automatic Case Erectors.

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- This answers the question as to which profile to use with the many different types of paper/liner combinations that we use today.

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For Heavyweight Board Production

CORAGUM® TCE thermal conductivity enhancer is a new corrugating additive from Ingredion designed to accelerate adhesive drying and maximize production speeds for heavyweight boards, for the U.S. and Canada. It enables corrugated boards to dry rapidly with less heat while delivering greater productivity. Patent pending by the manufacturer, the additive is composed of nanotechnology microfibrils that easily disperse into starch-based corrugating adhesives and can dramatically increase heat transfer and water removal. The thermal conductivity enhancer is ideal for a number of heavyweight corrugating and papermaking applications, including multiwall board, heavyweight singlewall board, high-density paper, heavyweight paper, specialty paper and more. CORAGUM TCE thermal conductivity enhancer can help corrugators achieve faster machine speeds by improving the thermal conductivity of adhesives, resulting in a faster drying rate and improved bond strength. This advancement allows for better performance and efficiency of heat-limited production processes that can't effectively gel and dehydrate adhesives before stress impacts bond quality. In these cases, the additive can improve board properties – resulting in flatter, drier boards with less score damage, blistering and delamination – thereby reducing waste.

Ingredion's thermal conductivity enhancer is particularly ideal for the production of double and triplewall boards and can improve performance of heavyweight and specialty papers that are typically difficult to bond. The liquid additive can be added to a run tank whenever needed and can be formulated in full batches (if dosing or run tanks are unavailable). On average, the additive requires one-tenth the dose of other performance additives, making it a highly efficient option for corrugators, according to Ingredion.

FOR MORE INFORMATION
INGREDION INCORPORATED
www.ingredion.us/corrugating.com

Digital Finishing Tool

VariAngle, Esko's newest tool for its Kongsberg C and XP range of digital finishing tables, enables cutting at any angle from 0° and 60° at high speeds, delivering total freedom in the design of 3D creative displays while also resulting in faster setup times and an uplift in cutting speed. "Fitting the new VariAngle tool makes existing Kongsberg C and XP tables completely self-sufficient and capable of delivering most any creative design," said Digital Finishing Product Manager, Knut Johansen. "...using VariAngle removes the need to stop production when changing tools, drastically reducing setup time and increasing cutting speed. With VariAngle, Esko has developed a single tool which cuts straight lines at any angle selection in half-degree increments between 0° and 60° and at up to 100m/min; a breakthrough innovation for the industry." The tool behavior is defined from within the Esko ArtiosCAD structural design software, therefore no operator input is required at the cutting table itself so productivity is boosted by a further 25%."For the first time ever, converters can make 60 degree V-notch cuts enabling the making of triangular pillars, something which has been impossible until now as no machine on the market can cut at an angle greater than 45 degrees. It can also cut angled curves, dependent on radius size," added Knut. It can be retrofitted to existing Kongsberg C and XP machines.

FOR MORE INFORMATION
ESKO
https://innovation.esko.com/en

Inspection And Defect Tracking

Baldwin Vision Systems' new "Defender" suite of data-connected technologies identifies, tracks, and removes print defects. Designed for wide web packaging substrates, Defender 100% Inspection™ is the foundation for the comprehensive defect tracking solution. Defender Data Central® and Defender Waste Manager™ combine to function as a seamless defect detection and tracking workflow. Defender 100% Inspection uses defect detection algorithms to quickly classify each defect, driving better print quality decisions. Self-learning algorithms monitor the capabilities of the press and automatically apply optimum inspection tolerances to each job. Job settings can be quickly modified and saved. Manual fine-tuning makes it possible to reduce false or nuisance alarms by simply adjusting sensitivity levels for multiple defect types and different substrates. Modern, high efficiency, fan-cooled LED lighting delivers high intensity with greater image detail and low image noise. Defender Data Central offers more intelligent print inspection by using the visual maps of each inspected roll. Quality control operators can analyze for defect distribution, count, and type. Out-of-tolerance areas are identified for removal, and job-based quality reports can be generated. Defender Waste Manager can interface with rewinding, slitting, and sheeting equipment to automatically control when they stop/reject – allowing for fast and easy removal of defective material. Defect location data speeds up the converting process by allowing operators to fast-forward to the exact location of the defect within a roll. For all of the Defender components, powerful yet easy-to-use multi-touch interfaces require very little training to operate. New users can be trained on the app-style system in a few minutes, and print operations can be less reliant on highly skilled operators.

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