Precision Alignment

Regardless of machine section, equipment alignment is critical to the success of a paper machine upgrade and/or conversion project.

Sustainability

Tissue converting technology offers sustainable alternatives to not only converters, but their customers, alike.
You might as well feed it your money.

How much is mechanical refining costing you in time, added pulp expense and energy use? Turn to Maximyze® for tissue. It uses enzymatic technology to condition fibers without harming them.

So you can maximize strength, save on pulp and energy costs and speed up production. Connect with your Buckman representative or visit buckman.com to learn more.
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Many paper makers are upgrading their older paper machines in order to produce more profitable paper grades. From start to finish of an upgrade project, precision alignment is critical to the success of the conversion.

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Tissue manufacturers and converters have opportunities to not only lean into their own sustainability initiatives, but also help their customers contribute to the global cause.

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It is estimated that there will be a need for annual imports into Turkey of perhaps 2 to 3 million tonnes of recovered fiber, meaning that the country could provide a solution for some of Europe’s surplus.

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You’re always connected — work, friends, news, games, you name it. The world is at your fingertips, only a swipe or a tap away. Although your smartphone is your life-line to everything, it may be taking a toll on your mental health, and if you don’t believe me, just ask Google, the king of all things digital.

“As technology becomes more and more integral to everything we do, it can sometimes distract us from the things that matter most to us,” says Google. “A lot of people feel that they spend too much time on their phones and struggle to find a balance with technology.”

To counteract this imbalance — which, by the way, Google should take much of the blame for — Google has created what it terms “Digital Wellbeing Experiments”, and it just so happens that one of these experiments is a paper phone. Of course you have to download an app on your real phone — and Google would prefer it to be their new Pixel 4 — but nevertheless, the app gives you the ability to make your own paper phone. No kidding.

First things first, however. This paper phone doesn’t actually work, not in the sense that a real phone works. It’s more “a personal booklet of the key information you’ll need that day,” says Google. Google’s Paper Phone app allows you to choose the information you might want available from your smartphone — which must be an Android — like contacts, meetings, maps, weather, even screenshots. Then, using your phone’s Bluetooth capability with a printer, the app prints the selected information out in separate sections (sort of in quartered sections) on a sheet of paper. You then fold the sheet accordingly and there it is, your new paper phone.

Seems silly, right? Of course it is. And ironically, in order to disconnect from the digital world with your new paper phone, you’ve got to put in added time on your real phone, downloading and familiarizing yourself within Google’s Paper Phone app before you can begin to detox yourself from digital overload.

Paper Phone isn’t Google’s first attempt at using paper products to explore the digital world. In 2014, the company introduced Google Cardboard, a way to view virtual reality applications on a smartphone. Google said it shipped 5 million pairs of the low-tech glasses in 19 months.

I tried to find out how many people have downloaded Google’s Paper Phone app, but couldn’t come up with that figure. Google does have a short video about the Paper Phone and as of mid-November, it had 170,413 views. Some of the comments about the video are pretty funny. One viewer wrote, “Have you tried out this new invention called a piece of paper. I know, it’s crazy.” Another wrote, “This may be the only phone that’s allowed in my school.”

Unfortunately, Google’s Paper Phone was a real letdown for a user named ‘BR’, “Really thought we had digital paper like in the Harry Potter series. I am disappointed.”

Much like Google’s Paper Phone, I’ve kept this Editor’s Note on the lighter side of all things fit to print.

On behalf of all of us at PaperAge, here’s to wishing everyone a safe and healthy Holiday Season and a Happy New Year!
Merichem provides low-cost soda and sulfur make-up chemicals to the pulp and paper industry. Our products include economic caustic soda, sodium sulfide, and sodium hydrosulfide solutions used in the kraft digestion process, bleach plant scrubbers and white liquor oxidation systems.

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Willamette Falls Paper Company Trials First Run of Non-wood Paper

Willamette Falls Paper Company in West Linn, Oregon, in late-October made its first successful trial of non-wood paper grades using pulp from local agricultural waste — producing both coated and uncoated grades using 10% non-wood pulp fiber.

Additional machine and press trials are ongoing to refine the paper properties and specifications. However, preliminary outcomes from press room trials and initial customer feedback show very promising results. The mill expects to announce the commercial production of coated and uncoated grades by mid-November.

“We want to be the first coated paper mill to offer non-wood grades made in the U.S. and sourced with local agricultural waste, in this case, straw,” says Phil Harding, Director of Technology and Sustainability at Willamette Falls Paper Company. “Our long-term focus is sustainable papermaking, and successful trials using non-wood raw materials is another step toward this goal.”

Willamette Falls Paper Company is a non-integrated mill capable of making coated and uncoated grades with an annual capacity of 260,000 tons.

Domtar to Reduce UFS Papermaking Capacity at Two Mills

Domtar in early-October announced that it will permanently shut down two of its paper machines. The closures will take place at the Ashdown, Arkansas pulp and paper mill, and the Port Huron, Michigan paper mill. These measures will reduce the company’s annual uncoated freesheet paper capacity by approximately 204,000 short tons, and will result in a workforce reduction of approximately 100 employees.

The closure of the Ashdown paper machine became effective at the time of the announcement, and the closure of the Port Huron machine took place in mid-November.

“I wish to sincerely thank colleagues impacted by the closures and recognize their hard work and contribution to Domtar over many years. As difficult as these actions are, we believe they are necessary in light of the declining market for uncoated freesheet paper. We will be working closely with our customers to assure they continue to receive the high quality products and exceptional service they have come to expect from us,” said John D. Williams, President and CEO of Domtar.

The Ashdown mill will continue to operate one paper machine with an annual uncoated freesheet paper production capacity of 200,000 short tons and employ approximately 725 people. In addition, the mill operates one of the world’s largest fluff pulp machines, with the flexibility to produce softwood pulp depending on market conditions. As a result of the closure of the paper machine, the mill will produce an incremental 70,000 ADMT of softwood and fluff pulp, which will ramp up over the next 12 months.

The Port Huron mill will continue to produce a wide variety of technical and specialty papers for a broad range of customers, utilizing three machines with a total annual production capacity of 95,000 short tons. Following the closure, the mill employs approximately 212 people.

“The closure of the two paper machines will enable us to right-size our paper production capacity with our customer demand. This proactive measure is necessary due to increased imports and declining paper demand,” Williams added.
MORE CHOICES
- Representing North America’s leading MRO brands
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MORE EXPERTISE
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- Over 200 field product specialists available to solve your toughest challenges
- Unmatched technical and application support

MORE SOLUTIONS
- Local parts and supplies inventory for fast turnaround
- Repair and fabrication technicians
- Account representatives and hundreds of branches located throughout North America

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ND Paper Announces Strategic Capital Investments in Rumford and Biron Mills

ND Paper announced that it will strategically inject investment capital to improve the asset quality of its mills in Maine and Wisconsin in the coming year.

“We have four mills, three of which were built more than 100 years ago,” explained Ken Liu, Group Deputy Chairman and CEO for ND Paper. “By focusing on high-return strategic investments, we are building world class, first-quartile mills that deliver innovative, high quality products for our customers.”

Rumford Division
At the Rumford, Maine facility, the pulp dryer and all three paper machines will undergo significant upgrades.
• R9, the pulp dryer at Rumford, will take downtime in the first quarter of 2020 for a rebuild to increase pulp production.
• R10 machine will pause operation in late-March to install a new headbox and shoe press, as well upgrade the forming section. Upon restart, these improvements will enhance product quality, as well as increase capacity and productivity.
• R12 machine will convert production from printing and writing grades to focus on specialty packaging products.
• R15 machine will take an extended outage in the summer months for the installation of a new shoe press. This addition, combined with calender enhancements completed earlier this year, will transform the machine into a top quartile producer of C1S and printing grades.

ND paper noted that the upgrades on R10 and R15 will increase production output to effectively absorb R12’s exit, and Rumford’s printing and writing papers capacity will be the same post-conversion with two machines as it is currently with three.

Biron Division
As previously announced in October 2018, ND Paper will complete the conversion of the B25 machine from lightweight coated mechanical papers to recycled linerboard and corrugating medium in the first quarter of 2020.

Cascades to Close Tissue Converting Operations at Waterford, NY and Kingman, AZ

Cascades announced that it will permanently close tissue converting operations at its Waterford, New York and Kingman, Arizona plants, effective March 27, 2020.

Cascades emphasized that the closures do not involve the Waterford customer service or distribution centers, while the Kingman distribution center will continue to operate until the lease ends in October 2020.

“The difficult, but necessary decisions we are announcing today are part of our strategic efforts to improve the tissue group’s profitability and position this business for long-term success,” said Jean-David Tardif, President and COO of Cascades Tissue Group. “The losses recorded by these plants, existing market conditions, and our recently announced investments in acquiring and modernizing other converting units in the U.S. have prompted us to move production to our other sites to optimize operational efficiency and reduce logistic costs.”

The two sites produce a combined total of 9 million cases of tissue products annually and employ 213 workers. These volumes will be moved to other Cascades plants and filled with the ramp up of additional capacity.
EXCELLENT PERFORMANCE WITH THE NEW AND INNOVATIVE EvoDry™ PULP DRYING SYSTEM FROM ANDRITZ

In designing the EvoDry™ pulp drying system, ANDRITZ has produced a high-performing, low-maintenance, all-in-one drying line unlike any other drying system, while also considering aspects relating to health, safety, and environment. The excellent performance can be attributed to a number of new technological features, including a closed-draw concept between combi and shoe press, an improved air distribution system, and a web position sensor in combination with a turning roll system. The new features all work together to achieve greater reliability and flexibility, making this an efficient and reliable drying line that produces top pulp quality.

Contact us at: pulpdryinglines@andritz.com
Greif on Oct. 15 announced that it is ceasing operations at its Number 1 paperboard machine at the Mobile Paperboard Mill in Mobile, Alabama.

The Number 2 paperboard machine at the mill will continue to operate normally. Greif told PaperAge that the Number 1 machine has an annual production capacity of 64,965 tons of uncoated recycled board (URB).

In a written statement, Greif said, "This action will help to reduce the Mobile Mill’s ongoing operating costs and capital needs."

The Mobile Paperboard Mill became part of Greif through Greif’s $1.8 billion acquisition of Caraustar Industries, which was completed in February 2019.

Verso on Nov. 12 announced that it entered into a definitive agreement to sell its Androscoggin mill, located in Jay, Maine, and its Stevens Point mill, located in Stevens Point, Wisconsin, to Pixelle Specialty Solutions for $400 million, subject to post-closing adjustments.

The Androscoggin mill has the capacity to produce approximately 425,000 tons of paper per year and currently produces flexible packaging papers, release liner base, specialty labels, kraft papers and linerboard.

The Stevens Point mill has the capacity to produce approximately 210,000 tons of paper per year and currently produces coated flexible packaging papers, release liner base, thermal papers, and other specialty labels.

The sale, which has been unanimously approved by the Verso’s Board of Directors, is subject to and conditioned upon the receipt of approval from the company’s stockholders at a special meeting of stockholders, as well as certain regulatory and other customary approvals.

Gene Davis, Co-Chairman of Verso’s Board, stated “We have undergone a thorough and comprehensive strategic process and firmly believe that the sale of these two mills at the agreed upon terms and conditions is in the best interests of the company and our stockholders. We could not be more pleased by the efforts of the entire Senior Leadership Team and of Les Lederer, our Interim Chief Executive Officer since April."

Verso said net cash proceeds of the transaction are anticipated to be approximately $336 million, after the assumption by Pixelle of approximately $35 million of pension liabilities, anticipated working capital adjustments, and the payment of transaction related expenses.

According to Pixelle, upon closing of the deal, it will be the largest specialty paper business in the U.S. in terms of annual production. The addition of the two Verso mills will give Pixelle a total of four mills, three of which have on-site pulp mills, with a total of 12 paper machines and the capacity to produce more than one million tons of paper annually in aggregate. Additional operations will include a converting facility in Fremont, Ohio and wood fiber sourcing operations in strategic wood baskets in Maine, Maryland, Ohio and West Virginia.

The transaction is anticipated to be completed in the first quarter of 2020.

In early September UPM announced plans to permanently close paper machine 2 in Rauma, Finland. The employee consultation process concluded in early November and PM 2 was permanently closed on November 6.

The closure resulted in a reduction of 179 people (159 permanent and 20 temporary) and a reduction of UPM’s SC paper production capacity by 265,000 tonnes annually.

Production on the remaining two paper machines in Rauma will continue as before.

At the time of the closure, Anu Ahola, Senior Vice President, News & Retail, UPM Communication Papers, said, “The recent weeks have not been easy for us all. But in times of a continuously challenging market environment and an accentuated decline of demand for graphic papers, we have to secure the future competitiveness of UPM’s paper business and the remaining assets at the Rauma site.”
nature is a perfect technology
our technology is perfect for nature

Our commitment is to provide innovative technological solutions to produce sustainable tissue products.

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Metsä Tissue Curtails Tissue Paper Production on PM6 at Krapkowice Mill

Metsä Tissue on Oct. 8 announced that it is curtailing paper production on PM6 at Krapkowice mill in Poland until the end of December 2019. At that time, Metsä Tissue will decide whether PM6 will be restarted.

The annual production capacity of PM6 has been approximately 20,000 tonnes.

Metsä Tissue said the curtailment is necessary because of the current unsatisfactory prices of tissue papers in the market, and that the company intends to balance its mills’ production to meet market demand. The Krapkowice mill has three paper machines, seven converting lines and a deinking line. The mill has approximately 370 employees.

Ahlstrom-Munksjö to Divest Fine Art Paper Business for EUR 44 Million

Ahlstrom-Munksjö and its French subsidiary Ahlstrom-Munksjö Arches, have entered into a non-binding memorandum of understanding to divest Ahlstrom-Munksjö Arches’ fine art paper business, under ARCHES® brand, to Italy-based F.I.L.A. Group.

Ahlstrom-Munksjö expects to close the deal in the first quarter of 2020, subject to employee negotiations and adjustments between seller and buyer.

The standalone pro forma annual net sales of the fine art paper business to be divested are estimated to be approximately EUR 13 million and comparable EBITDA in excess of EUR 4 million in 2019.

“As a result of our regular assessment what is the best structure for our platform of businesses, we have signed a non-binding memorandum of understanding to divest the fine art paper business,” said Hans Sohlström, President and CEO of Ahlstrom-Munksjö. “The business is small and synergies are limited within our portfolio of businesses.

“F.I.L.A. is a strategic and industrial owner, a leading global player in its field, for which the ARCHES paper product range is highly complementary and provides further growth opportunities,” Sohlström added.

ARCHES paper is mainly used for watercolor painting, art publishing, printing and writing, and digital art publishing (reproduction). The quality of the art paper is similar to traditional handmade paper and has characteristics that make it well suited for painting and the printing of art motifs.

ARCHES paper is produced by two dedicated paper machines at the Arches plant in France where Ahlstrom-Munksjö Arches operates a total of seven paper machines — the remainder of which produce decor papers and abrasive paper backings.

UPM to Invest EUR 95 Million in New CHP Plant at Its Nordland Mill

UPM said that it will invest EUR 95 million in an 80 MW gas fired Combined-Heat-Power (CHP) plant at its Nordland paper mill in Dörpen, Germany. The new facility supports the German energy transition “Energiewende” by contributing to the stability of the public power system.

According to UPM, the CHP facility has a payback time of three years. The plant, which is planned to go on grid in the third quarter of 2022, will cover the mill’s heat demand while enabling active participation in the increasingly volatile German electricity markets.

“This investment will provide a stable and economically predictable power and heat supply, significantly strengthening the competitiveness of the four graphic and specialty paper machines at UPM Nordland,” said Winfried Schaur, Executive VP, Communication Papers at UPM.

Annual cost savings of more than EUR 10 million will start as of 2023. The investment is estimated to decrease UPM’s CO2-footprint by 300,000 tonnes (scope 2). UPM noted that it has proven the concept at its Schongau mill in Bavaria with good results.
Oji Holdings Corporation announced that it has worked on restructuring its Group manufacturing system in response to the structural changes in domestic demand in Japan. As a result, Oji has decided to close the manufacturing operations of the Nayoro Mill (Oji Materia Co.) and relocate one of the mill’s paper machines to the Tomakomai Mill of Oji Paper Co.

The decision involves relocating the #2 Machine at Nayoro to Tomakomai Mill. The #2 Machine produces special liner and special paperboard, and has a production capacity of 47,000 tons per year. After its relocation, Oji expects to restart the machine in April of 2022.

The Nayoro mill’s other paper machine, #3, which has the capacity to produce 163,000 tpy of corrugating medium, is slated for shutdown in December of 2021.

Oji also noted that #5 Machine at the Tomakomai Mill is being converted from newsprint production (200,000 tpy) to containerboard and kraft paper. Oji did not disclose the potential production capacity of #5 after the conversion, but expects it to restart in 2021.
Nippon Paper Industries announced that it has signed an agreement with Orora Limited to purchase Orora’s paperboard fiber-based, packaging business in Australia and New Zealand (the “Business”) for an enterprise value of AUD 1.72 billion in cash, subject to adjustment for movements in working capital and debt items.

The scope of the Businesses includes Orora’s Botany Paper Mill in Matraville, New South Wales, Australia, along with fiber converting, specialty packaging, cartons, bags, functional coatings and Orora WRS packaging distribution.

The final structure for purchasing the Business, which involves Nippon Paper’s consolidated subsidiary Paper Australia Pty Limited, will be confirmed in due course.

In a written statement, Nippon Paper said, “Orora has established strong operations in Australia and New Zealand through a comprehensive business model combining a wastepaper collecting system with cutting-edge corrugated base paper manufacturing, highly automated cardboard production and the provision of packaging-related materials and associated services.

“Through the acquisition of the Business, Nippon Paper Group will be entering the integrated corrugated paperboard manufacturing business in the Oceania region. Nippon Paper seeks not only to augment the synergistic effects with AP, but also plans to further build the Group’s packaging business on a global scale.”

Nippon Paper expects to complete the deal January 31, 2020.

Voith has signed an agreement with Spectris plc to acquire BTG for a total gross cash consideration of EUR 319 million.

BTG, a provider of integrated, highly specialized process solutions for the global pulp and paper industry, offers a high-value portfolio of optimized and customized solutions for a range of applications, mainly in the areas of packaging, graphic papers and tissue. Among these are beds and rods for film-metering size presses, high-performance ceramic and cermet coating blades, and pulp and paper process control sensors and laboratory instruments.

“With BTG, we found an ideal match to complement our portfolio and get the chance to add a high-performing company with widely recognized expertise in the pulp and paper market. This helps us to expand our competitive position as a full-line supplier for the paper industry in the areas of consumables, instruments, services and software,” said Toralf Haag, President and CEO of the Voith Group.

The transaction is expected to close late in the fourth quarter of 2019. The closing is subject to the company obtaining all regulatory approvals as well as other customary closing conditions.

Valmet announced that it will supply a coated board machine for Graphic Packaging International’s mill in Kalamazoo, Michigan.

The new board machine will produce coated recycled board grades (white line chip board, WLC grades) with an annual capacity of about 454,000 metric tons.

Dave King, Area President, North America, Valmet, said, “Valmet has a very good relationship with Graphic Packaging International, and we have had successful projects with them. We are happy to be involved in this important project to provide a new coated board machine in the United States.”

The new board machine is part of a $600 million investment by Graphic Packaging into its integrated CRB platform.

Start-up of the new machine is scheduled for the first half of 2022.
ANDRITZ has received an order from Dezhou Taiding New Material Science and Technology Co., Ltd. (Dezhou Taiding) to supply a P-RC APMP (Pre-Conditioning Refiner Chemical Alkaline Peroxide Mechanical Pulp) fiberline with a capacity of 400 t/d to the mill in Dezhou, Shandong, China. The new system will process poplar as raw material, and the fiber produced will be used on the company’s own paper machines for P&W (printing and writing paper) and board grades. ANDRITZ’s scope of supply includes the key components for the entire mechanical fiberline, ranging from chip washing to the reject treatment system, along with Engineering, training, supervision of the mechanical installation, commissioning and start-up. Start-up is scheduled for the third quarter of 2020.

Honeywell announced its collaboration with Papertech to develop and market TotalVision™, a connected, camera-based detection system for the flat sheet industries. The system enables customers to identify and resolve defects on the production line, improving quality and efficiency. The fully integrated total quality control solution is designed for flat sheet and film processes in which surface detection and production break monitoring capabilities are critical for competitive success. This new solution is designed for paper, pulp, tissue, board, extruded film, calendaring, lithium-ion battery, copper and aluminum foil producers. Combining Honeywell’s ExperionMX™ technology with Papertech’s TotalVision defect detection and event capturing capabilities, the solution provides a single-window operating environment for all aspects of process and quality control. When integrated with connected offerings such as Honeywell QCS 4.0, system data and analytics can be accessed anytime, anywhere, from any device. Honeywell will continue to support existing camera system users with parts and services, while offering an easy migration path to the new solution. Given the collaborative nature of the agreement, customers can choose to take a single party, single-window approach or to engage with Honeywell and Papertech separately.

INDUSTRY SUPPLIERS

Essco Celebrating 50 Years of Incorporation

Essco Incorporated, a doctor blade and doctor systems manufacturer based in Green Bay, Wisconsin, is proudly celebrating 50 years of incorporation. Incorporated in 1969, Essco’s story actually begins much earlier. From a one-man sales agency founded in 1939, Essco has grown into a leading provider of precision, high-performance doctor technology solutions for the paper and steel industries. Essco has one of the most modern facilities in the world. And with a very specific niche in the industry, Essco excels in providing custom solutions with in-house engineering and precision manufacturing.

“Every day, our solutions support some of the world’s largest and fastest paper and sheet steel machines, with high-quality, long-lasting products that help reduce downtime and maintenance,” said Steve Whitman, President of Essco. “We are proud to serve the great manufacturing companies that keep our country and world turning.”

Although it’s headquartered in Green Bay, Essco’s innovation reaches far beyond Wisconsin borders. The highly trained staff of technical sales and support specialists serve the needs of customers covering the entire USA, Canada, Mexico, and many other countries in Europe, South America and Asia.

Honeywell and Papertech Collaborate On Camera-Based Quality Control System
Ahlstrom-Munksjö has appointed Markus Westerkamp as Executive Vice President of the Advanced Solutions business area and a member of the Group Executive Management Team, effective January 1. Westerkamp has been with the company since 1995 and most recently served as Vice President of the Food Packaging business.

BillerudKorsnäs has appointed the current Chairman of the Board, Lennart Holm, as acting CEO from November 5, 2019. He replaces Petra Einarsson, who left the company on the aforementioned date. Board member Jan Åström will act as Chairman of the Board. The recruiting process for a permanent CEO is underway.

Rottneros has appointed Peter Sävelin as Mill Director at Vallvik Mill, effective Jan. 1. He will also become part of the Rottneros Group Management Team. Sävelin replaces Michael Berggren, who decided to take up a position outside Rottneros. Sävelin joins Rottneros from BillerudKorsnäs, where he held the position of Senior Technology Specialist.

Stora Enso has appointed Annica Bresky, 44, as the new President and CEO of the company, effective December 1, 2019. Bresky, currently Head of Stora Enso’s Consumer Board division, replaces Karl-Henrik Sundström, who informed the Board of Directors in August that he would be leaving the company. Sundström will remain with Stora Enso for an unspecified period to ensure a smooth transition of leadership.

SWM International has named Omar Hoek as Executive Vice President, Engineered Papers, effective January 2020. He will replace Michel Fievez, who will retire at the end of 2019. Hoek will join SWM from Ahlstrom-Munksjö, where he leads their Specialties division and is part of their senior executive leadership team.

WestRock Company announced that Pat Lindner, President, Consumer Packaging, has been named Chief Innovation Officer in addition to his leadership role of the company’s Consumer Packaging segment. In this added role, Lindner will lead WestRock’s global innovation capabilities in materials science and manufacturing services, and accelerate the development of new, sustainable products and solutions.

Willamette Falls Paper Company announced that Barbara Ness and Mark Sterry have joined the company as Regional Sales Managers. Ms. Ness’ background includes over 25 years of paper, printing and packaging experience, most recently with iVEX. She will cover the Pacific Northwest region. Sterry worked on both the mill side with Stora Enso, New Page and Moorim, as well as on the merchant side with Unisource, Veritiv, and Pro-Con. He is located in Northern California and will cover the Southwest region.

INDUSTRY ASSOCIATIONS

Buckman recently named Jonathan Scharff as its first Chief Administrative Officer (CAO). Scharff will lead Buckman’s Human Resources, Marketing and Communications, Business Strategy & Transformation and Legal departments. In addition to his role as CAO, Scharff will also continue to serve as Buckman’s General Counsel. He previously served as Buckman’s Vice President of Corporate Development.

Michelman has appointed Jason Wise as the company’s new Chief Financial Officer. Wise has served as the company’s Vice President of Finance since 2016. He joined Michelman in 2012 as its Corporate Controller.

RECOGNITION

Yves Laflamme, President and CEO of Resolute Forest Products, has been named to Canada’s 2020 Clean50 and 2020 Clean16 by Delta Management Group for his contribution to sustainability and clean capitalism in Canada. Mr. Laflamme was specifically recognized for advancing key carbon reduction and plastic pollution initiatives.
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56% of the respondents in the United States feel that the food brands have the main responsibility for reducing plastic waste in food packaging, according to an international consumer survey commissioned by Kemira. 46% are willing to pay more for renewable packaging.

According to an international consumer survey commissioned by global chemicals company Kemira, over half of the 4,000 respondents in the United States, China, Germany and Finland said they would be willing to pay more for renewable food packaging. Most respondents were also hoping to reduce the use of plastic in their lives. The international survey, conducted in April 2019 by a third-party research partner, investigated consumers' views on food packaging materials, food shopping and food waste. According to the survey, when it comes to the features of food packaging, the key consumer priorities across all markets relate to the hygiene and leak-proof properties of the container, but packaging material itself is also considered important. Especially in the United States, the size of the food package and ease of use are also viewed important. 46% of the US citizens, 85% of the Chinese, 55% of the Germans, and 44% of the Finns respond positively to statement “I’m willing to pay more for renewable packaging in food (such as carton or other bio-based materials)”.

If plastic would be used more in food packaging in the future than now, Finns especially, and to a lesser extent Germans view this as a negative development.

USA 45%
China 38%
Germany 51%
Finland 76%

Willing to pay more for food packaging if it’s made from renewable materials.

USA 46%
China 85%
Germany 55%
Finland 44%
Many of the respondents are recycling their packaging: in the United States and China about 40% said they always recycle cartons and cardboard; around 80% of the Finnish and German respondents said the same. In all other countries apart from the USA (52%), plastic is much less frequently recycled.

“Food packaging plays an often-overlooked role in the total environmental footprint of food items, affecting both product shelf life and waste recyclability. For example, with appropriate packaging food stays fresh longer, safely. We are actively following food packaging trends, as we are part of the value-chain for fiber-based packaging solutions,” says Lee Sampson, Director of Product Lines at Kemira.

The global discussion on plastic is also reflected in the survey, as most respondents indicated they were trying to reduce the amount of plastics in their lives. In the United States 58%, in Germany 83%, in Finland 67% and in China, a staggering 93% of respondents agreed with this view. On the other hand, the future of plastic packaging divides opinions: 35% of the US citizens say they would feel negatively about increased plastics use in food packaging, while the corresponding number within the Chinese is 38%, Germans 51% and Finns 76%.

“It was interesting to see that 56% of the US respondents feel that the food brands have the main responsibility for reducing plastic waste associated with food packaging. This is something that the food brands are actively addressing, and one alternative is to use renewable and recyclable fiber-based packaging materials. However, it’s a complex matter as brands are often global but regulations are local. We hope to see the big, global challenges taken into consideration in local legislation, and expect some predictability into the regulatory future. Sustainable and renewable solutions require consistent, long-term joint effort,” continues Sampson.

In all markets consumers consider brands as being able to do the most to reduce the amount of plastic in food packaging.

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Reasons for not purchasing a food item from the grocery store.

<table>
<thead>
<tr>
<th>Reason</th>
<th>USA</th>
<th>China</th>
<th>Germany</th>
<th>Finland</th>
</tr>
</thead>
<tbody>
<tr>
<td>The amount of food inside the packaging is too big</td>
<td>31%</td>
<td>22%</td>
<td>32%</td>
<td>41%</td>
</tr>
<tr>
<td>The price is too high</td>
<td>45%</td>
<td>45%</td>
<td>41%</td>
<td>52%</td>
</tr>
<tr>
<td>The food inside the packaging is not protected enough</td>
<td>18%</td>
<td>34%</td>
<td>12%</td>
<td>33%</td>
</tr>
<tr>
<td>The packaging seems unreliable (broken, leaking, etc.)</td>
<td>16%</td>
<td>62%</td>
<td>15%</td>
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Advancing a Sustainable Industry

AF&PA recently honored five of its member companies for their sustainability initiatives

By Heidi Brock, President and CEO, American Forest & Paper Association

It is a dynamic time for paper and wood products in terms of sustainability and innovation — and that is a driving reason I am so excited to have recently rejoined the industry.

In 2011, AF&PA launched the Better Practices, Better Planet 2020 sustainability initiative, which includes one of the most ambitious sets of quantifiable sustainability goals to date for a U.S. manufacturing industry. As the 2020 deadline nears, the decision to adopt the initiative continues to demonstrate visionary leadership.

Beyond reporting progress on the goals in AF&PA’s biennial sustainability report — the latest edition was released in July of 2018 — we illustrate the meaningful ways the industry is making progress on the goals through the projects of our annual AF&PA Sustainability Award winners.

We recently honored five of our member companies for their sustainability initiatives. Let’s take a look at some of the industry’s sustainability highlights and the way the projects of our 2019 AF&PA Sustainability Award winners are contributing to continued industry leadership.

AF&PA members reached the goal to improve energy efficiency ahead of the 2020 deadline, but they are still looking for ways to contribute to further success. Lightweight papers and decorative packaging supplier Seaman Paper Company of Massachusetts, Inc. was recognized for reducing the facilities’ electricity consumption by over 1.2 million kilowatt hours per year by switching a significant portion of lighting over to LED.

Our industry greenhouse gas (GHG) reduction goal was set a more ambitious goal to reduce GHG emissions from their facilities. Last year’s report showed that they have nearly reached the new goal as well. As part of our 2019 Sustainability Awards, Resolute Forest Products was recognized for taking a series of actions to reduce absolute GHG emissions by 81 percent relative to 2000 levels at their pulp, paper, tissue and wood products facilities across the United States and Canada.

Promoting sustainable forest management allows the industry to steadily increase the amount of fiber it procures from certified forestlands and through third-party certified fiber sourcing systems. This year Domtar won an award for addressing certification challenges for small landowners in their southern U.S. wood procurement region — ensuring a greater supply of certified fiber to their pulp and paper mills to meet growing customer demand.

Members also continue to seek ways to reduce, reuse and recycle water in their manufacturing processes. Through a series of initiatives, award winner Green Bay Packaging achieved an 18 percent reduction in water use per ton of paper production, while increasing production by 10 percent, at their 100-percent recycled linerboard and medium mill in Green Bay, Wisconsin.

Our 2018 sustainability report showed that members reached the goal to improve worker safety. The industry vision remains one of zero injuries and industry focus in recent years has turned to eliminating serious injuries and fatalities. WestRock was recognized for a safety shield developed by mill workers at their Kraft containerboard
mill in Hopewell, Virginia. The shield covers the recovery boiler ports, eliminating the risk of burn injuries to boiler operators and bystanders.

WestRock also received the Innovation in Sustainability Award for EnShield® Natural Kraft. Manufactured at the company’s Mahrt, Alabama, paper mill, this completely recyclable paperboard has the same level of oil and grease resistance as plastic and plastic-lined alternatives. This AF&PA Innovation in Sustainability Award is reserved for projects that advance overall industry sustainability, not one of the Better Practices goals specifically.

The diversity and ingenuity our 2019 Sustainability Award winners prove that there are many ways to contribute to our success. Every effort counts and we are proud to represent companies that proactively advance the sustainability of our industry.

As the decade comes to a close, we intend to maintain our sustainability leadership among manufacturing sectors. One of AF&PA’s top 2020 priorities will be to facilitate member engagement to develop an updated set of sustainability goals with 2030 in mind. Our 2030 sustainability program will build on our industry’s longstanding commitment to sustainability — and the success we have experienced through AF&PA’s Better Practices, Better Planet 2020 program.

For more information about the sustainability initiative and the 2019 AF&PA Sustainability Award winners, visit: www.afandpa.org/sustainability.

About AF&PA
The American Forest & Paper Association (AF&PA) serves to advance a sustainable U.S. pulp, paper, packaging, tissue and wood products manufacturing industry through fact-based public policy and marketplace advocacy. AF&PA member companies make products essential for everyday life from renewable and recyclable resources and are committed to continuous improvement through the industry’s sustainability initiative — Better Practices, Better Planet 2020.
With the evolving market demands for paper – decreased use of printing and writing paper and increased demand for paperboard, containerboard and cartonboard, many paper makers are upgrading their older paper machines in order to produce more profitable paper grades. From start to finish of an upgrade project, precision alignment is critical to the success of the conversion.

In this article, you will learn the following:

- The importance of alignment during an upgrade or conversion project – from the planning process through the final alignment verification
- How alignment can affect each section of the paper machine
- Common process and productions issues that can occur as a result of misalignment
- Alignment methods and technologies that help to eliminate costly problems

Precision Alignment During Upgrades & Conversions

Why is precision alignment critical during a paper machine upgrade?

Regardless of machine section (wet end to reel), winders, drive lines, etc., equipment alignment is an integral piece during the conversion from old to new, especially when integrating new equipment into an older machine. Over time, machine sole plates have settled, upgrades have been performed and components have been replaced. Establishing existing alignment conditions prior to the upgrade provides engineering with the necessary information for optimal results. After all, upgrades are necessary to improve production. Equally important is the proper alignment of machine components for the integration of new and existing equipment.

What needs to be included as part of the project plan?

Engineering specifications will dictate location and alignment...
of new equipment. Prior to the installation of new equipment, alignment should be addressed and included as part of the overall planning process. Documentation of existing equipment, location and alignment, should be obtained and provided to the company that is designing/engineering the project. Additionally, alignment should be scheduled in the overall project plan or timeline.

**Why is alignment verification important prior to, and after start up?**

Prior to machine start-up, verification and documentation that the components were aligned within manufacturer’s specifications should be required by all parties including the owner of the equipment, the OEM, and the engineering and installation contractors. Manufacturers of new components/sections of machinery will provide installation alignment tolerances. And most times, warranties could be null and void if proper alignment is not achieved during installation. After start-up, alignment inspections should be performed within six months to one year to ensure alignment has been maintained.

**Effects of Alignment in the Sections of Your Paper Machine**

**Formers**

In general, formers are designed to do just that – form a sheet and remove a significant portion of water from the sheet. Regardless of machine configuration, Fourdrinier design and/or some type of twin wire former, alignment is extremely important.

**Forming zones**

Manufacturer design specifications, including alignment of components and designed geometry, are required for optimal performance of any machine. Impingement angles, position of forming board/blades and associated rolls will have a direct effect on quality of product and formation of sheet.

**Wire Runs**

It is just as important for all rolls within a wire section to be properly aligned. Misalignment can, and will, cause wire tracking problems as well as skew in wire trade seam. When the trade seam is skewed, water will not drain through the wire as intended. Even when all table or foil blades are properly aligned, water will not be removed as it should if the wire is skewed. Wire skew restricts the openings in the wire, thus restricting the flow of water.

**Press Sections**

The press section removes even more water from the sheet through a process of passing the sheet between machine components (rolls and/or roll and shoe) that apply pressure and thereby transfer water from the sheet into the fabric/felt.

**Press Components**

Press rolls should be aligned parallel within 0.005” over the length of the roll surface. Shoe press components should be aligned parallel and to manufacture specifications of shoe centerline location relative to roll centerline. Misalignment between press rolls/components will create an uneven nip - more pressure will be applied to one side vs the other. Uneven nip will not allow for even water removal across the width of the sheet and render the press inefficient. Furthermore, uneven nips can cause premature wear of press fabrics.

**Felt Runs**

Press sections will have at least one felt run which runs across the lower/fixed roll, down thru the basement, and over and around rolls to make a continuous loop. The press felt will travel across suction boxes which vacuum water out of the felt. As it passes thru the press again, water will be transferred from the sheet to the felt (continuous cycle). All rolls within a felt run should be aligned level and square to machine baseline or in worst case scenarios, all rolls within a felt run should be aligned in a similar level and square condition. This will allow the felt to track properly and keep the trade seam aligned. Trade seam skew in a felt is comparable to skew in a forming zone wire. Skew will not allow water to flow into and out of the felt as designed.
Dryer Sections

Much as the name implies, the sheet is dried to production standards in the dryer sections. Dryer sections come in various forms depending on the process and type of sheet manufactured:

- Dryer sections consisting of up to 100+ dryer cans which are steam vessels, heated to between 300 and 400 degrees F. The sheet passes over the dryer, and heat transfers into the sheet evaporating water from within the sheet.
- TAD (Thru Air Dryers) where air is forced thru the sheet as it passes over the dryer, and Yankee dryers which are large in diameter, thereby allowing the sheet to remain on one ‘dryer can’ for a longer period of time but yielding similar results as smaller dryer cans (heat transfer into the sheet, evaporating water from the sheet).
- Air dryers for pulp machines where the sheet is supported and carried thru the oven and removing water from the thick layer of pulp.

In each type of drying section, alignment of the components is critical to optimizing drying performance. Misalignment within these components can lead to improper felt tracking, sheet breaks, wrinkles, and machine downtime. Additionally, the moving parts that drive the dryer sections – gear casings, gearboxes and drive motors – should be aligned for optimal drive efficiency and lifespan of the parts including the couplings and bearings. As everyone knows, energy generation can be expensive and dryer sections utilize a great deal of energy. When dryer section components are aligned and running at optimum efficiency, energy costs stay manageable.

Beyond the Dryer Section

Breaker Stack, Size Press and Calenders

All utilize a process whereby the sheet is passed thru nipped rolls. Nipped rolls should always be aligned parallel or uneven nips will occur. Uneven nips render the process inefficient and lead to uneven/increased wear of components/rolls.

Reels

Reel drum, primary arm, and rail alignment are critical to proper turn-ups and properly wound roll sets. Wear in primary arm gears will lead to improper timing of arms which in turn leads to poor turn-ups or even sheet breaks at the reel.

Winders

Winders run at very high rates of speed. The faster the machine speed, the tighter the tolerances. Winders are very unforgiving when it comes to alignment. The overall sheet path, from unwind to bed rolls, is critical for optimal performance. Proper alignment of slitter sections, bowed rolls, winder drums, rider roll and ways, are all important to winding basics – TNT (Torque, Nip & Tension). TNT in some respects, is controlled by drive, hydraulic and control systems. However, if components are misaligned, operators will have a very difficult time maintaining the TNT specifications of the winder.

Process and Production Issues Due to Misaligned Components

Misalignment can lead to a host of process and production issues. The process of manufacturing a specific type and quality of sheet is dependent on the overall condition of the machine. If the machine is not properly aligned, the overall process will suffer. When implementing upgrades to

Impingement angles, position of forming board/blades and associated rolls will have a direct effect on quality of product and formation of sheet.
Precision alignment

Machine sections it is vital to know alignment conditions leading into and out of the new section to be installed. Proper transitions should be established to allow for optimal performance of the new piece of equipment in tandem with existing equipment.

Production of the sheet is also constrained by the condition of the machine. Misalignment of machine components will lead to poor sheet quality, defects in the sheet, wrinkles and sheet breaks; all which lead to scrap or lost production. If alignment is overlooked during a rebuild effort, costs can increase with very little return on investment simply because the production process was not synchronized by properly aligning new equipment in correlation with existing equipment.

A comprehensive alignment plan can keep the process and expected levels of production at peak levels. It may even allow you to break previously held production levels. And, wouldn’t you all want to be the champion of that achievement?

Alignment Techniques and Methodologies

Techniques
There are various techniques for alignment, but many are outdated and few people know how to utilize those older techniques. The preferred techniques utilize optical alignment tooling and/or laser-based equipment, such as the laser tracker. Highly accurate optical tooling and laser trackers can measure to 0.001” and easily provide the precision measurement standards and tolerances required by manufacturers.

Optical tooling and laser trackers use established reference points and allow for measurements to be obtained on all locations of equipment in both vertical and horizontal location and alignment positioning. In general, machine components are measured end-to-end to determine relative alignment conditions and corrections are made at mounting surfaces for precision alignment.

Proper use of precision measurement instruments will yield optimal alignment results. The measurement instrument though, is only as good as its operator. When properly trained, alignment engineers and field service technicians can obtain and document precision alignment data that validates the alignment of new and existing equipment.

Methodologies
It is important to understand the overall paper making process – continuous web from forming section to reel – in order to establish a paper machine alignment methodology that ensures precision alignment throughout the entire machine.

In general, all machine components should be aligned level to earth and perpendicular to machine centerline. For an entirely new machine installation this may seem fairly straight forward. Layout a straight line in the floor and set all equipment on centerline, level and square to that centerline. However, when existing equipment is in operation and inspection and alignment of components is to take place, it is vital that proper methodologies are followed.

An overall machine centerline survey should be performed and monuments installed in the operating aisle floor. These monuments will serve as an offset representation of the machine centerline. Then optical tooling or laser trackers can be utilized from wet end to dry end for documentation of equipment alignment conditions.

Transitions should be established when aligning only one section of a machine at a time or during a rebuild effort. Proper transitions will allow for continuous sheet transition from one section to the next thereby avoiding sheet breaks.

Using proper alignment methods will ensure upgrades/rebuilds to existing equipment yield optimum benefits. If your mill is considering a paper machine upgrade or conversion, the time is now to bring in the experts in precision machine alignment.

Myron Smith is Director of Training & Development for OASIS Alignment Services (www.oasisalignment.com). He has over 27 years of experience in precision machine alignment with OASIS. Myron can be contacted by email at: myron.smith@oasisalignment.com.
Enabling “New Answers to New Questions” via System-Wide Data Visibility

Breaking down silos and building insight for paper and tissue manufacturers.

By Martin Rempel, VP of Strategic Accounts, Sight Machine

You’re quickly running out patience. After recalibrating the parameters of the paper-making machine yet again, you just experienced the day’s third web break. Although you’re convinced that the wet-end section of the machine is to blame, you don’t have a clue about the specific cause of the break. Without any other choice, you’ll probably continue making trial-and-error machine adjustments. Meanwhile, production, quality, and revenue will suffer.

Sound familiar?

This scenario is extremely common when it comes to dealing with web breaks – particularly in the wet-end section of a paper machine. Unfortunately, the inability to detect the root causes of process and quality problems continues to affict the paper and tissue industries.

Both the problem – and the solution – often can be traced to the availability of relevant information derived from proper utilization of all available data.

Lots of data – and little insight

Like their counterparts in many other industries, paper and tissue companies typically generate a flood of production data — but only a trickle of insight. The data arrives in a variety of formats, then is stored in different systems that don’t communicate with each other. These restrictive “data silos” prevent the ability to see the “big picture” of what’s happening throughout a production line — including visibility into “upstream” variables that impact “downstream” operations.

To derive valuable data insights, paper and tissue companies need the ability to ask the right questions of their data. Unfortunately, in a siloed-data environment, those questions often are limited to a particular machine or individual process.

New questions = new (more valuable) answers

Today’s fast-paced, increasingly competitive marketplace demands a reimagined data analytics vision – one that enables new answers to new questions based on access to system-wide production and operational data. Instead of asking the same “old” questions (“How is my machine performing? What is my defect rate?”), executives need the ability to start asking new questions that will drive higher-value answers, such as “Which operating conditions will cause downstream failures?” Or, “How should I adjust operating parameters based on raw material quality?”

This new approach requires not only visibility into system-wide production data (from pulp, to paper/tissue production, to converting), but also the ability to view interdependencies within a plant (for example, how paper quality might impact downstream converting processes). To get there, companies must transition from siloed data to integrated, modeled data – and from batch/historical analytics to streaming/real-time analytics.

Sight Machine: an integrated, real-time view of system-wide production

There is a solution for gaining real-time visibility and actionable insights for every paper reel, batch of converted products, machine, line, and plant throughout a paper- or tissue-making business. The Sight Machine platform enables paper manufacturers to use all of their data — regardless of its format or where it was created. As a result, companies can ask questions that drive better decision-making throughout the business.

Sight Machine accomplishes this by collecting data from across an entire paper- or tissue-making company – from the pulp plant, to the paper mill, to the converting plant, to the packaging area. That information – whether it’s from historians or from an ERP, quality-control, MES, or asset-management system – is assembled, contextualized, and leveraged to present a single source of truth for the entire organization. The data is then modeled into a “digital twin” that mirrors the complete production process, transforming data into actionable intelligence to solve previously intractable problems.

Two scenarios that ‘make the case’ for Sight Machine

Here are two use cases in which Sight Machine can drive new levels of insight for paper and tissue companies.

Optimizing energy usage

While most paper and tissue companies would welcome a better understanding of how their assets utilize energy, this information typically isn’t visible on a production line.
Recently, Sight Machine worked with a major German paper and packaging company to determine how different manufacturing scenarios affect energy usage. In Germany, as in many other parts of Europe, plants are billed based on their peak energy demand/consumption (their highest level of energy usage during a given time period). Energy bills can skyrocket based on spikes in peak energy usage. It’s difficult to control these energy costs without knowledge of what’s driving peak energy demand. This data wasn’t available, however, because the manufacturer’s product and energy information was siloed in different parts of the organization. The manufacturer wanted to determine which kinds of variables affect peak energy demand — and how those variables could be optimized given constraints imposed by the company’s OEE objectives. Using Sight Machine’s digital twin, the manufacturer modeled how changes to a few variables could help it create the optimal balance between reduced energy usage/costs and meeting its OEE targets.

Sight Machine enabled the manufacturer to blend data from several different sources, including the MES system, various assets, energy readings, and information on products created on production lines at specific points in time. Soon it became apparent that certain products required more energy than others to produce. For example, the use of certain inks or colors required more energy to dry the ink. Armed with this new information (“new answers to new questions”), the manufacturer now possesses the vital insights needed to balance energy usage and OEE.

Addressing the root cause of quality problems

For many paper-making companies, one of their most vexing challenges is the inability to efficiently and effectively troubleshoot root causes of quality issues.

Recently, a box plant sought a better way to determine the cause of customer claims related to product quality. When it approached Sight Machine, the mill was unable to correlate customers’ claims with specific products and the machines that produced them. As a result, the company was resorting to a time-consuming, manual process of pulling the claim, searching for product serial numbers, accessing the MES system, and then attempting to determine the product and machines involved. Data wrangling took days – if it could be done at all.

With Sight Machine, the manufacturer was able to blend its claims database with other pertinent information located in other parts of the company. That enabled the box plant to correlate claims with products that were produced during a specific timeframe. In addition, the company’s chief data scientist built a machine learning algorithm that analyzed the variables with the highest likelihood of producing customer claims.

As a result, the manufacturer identified the two variables most likely to cause problems. One was the warp of corrugated products, which had the potential to cause printing and folding problems. The analytics identified the warp values and glue gaps at which customer claims were twice as likely as with any other glue-gap setup. With this proof-of-concept trial, the company learned how it could use Sight Machine to measurably improve its OEE and EBITDA (earnings before interest, tax, depreciation, and amortization).

How Sight Machine can benefit financial performance

These Sight Machine-driven use cases are already fueling financial benefits for paper and tissue companies:

- Across the industry, Sight Machine users are typically able to increase their OEE by 1 to 5 percentage points, translating to a significant EBITDA lift.
- Return on capital employed (ROCE) typically shows the potential for improvements of a few percentage points.
- Energy savings benefit not only paper manufacturers’ bottom lines, but their sustainability profiles as well.

To achieve financial benefits like these, paper and tissue manufacturers need a “data first” platform like Sight Machine that enables continuous improvement through:

- System-wide modeling
  - For a single process or asset – or end-to-end
  - For a single function or across many functions
  - For a single plant or an entire network of plants
- Real-time streaming to enable informed decisions on current production activity
- Organizational expertise to ensure production operations can work with data, end-to-end.

For additional use cases, and to learn more about how paper manufacturers are improving production with system-wide data visibility, download a free white paper at: sightmachine.com/paperage.
Sustainability initiatives rightfully continue to dominate global focus, and the pulp and paper industry — long known for massive energy consumption — is once again being closely scrutinized. Manufacturers that routinely budget anywhere from 10-40% of production costs strictly for energy use will raise environmental red flags.¹

In response, tissue converters and manufacturers are using smart machinery and digital technologies to capture data that provides insights into energy efficiencies — and energy waste — from the granular equipment level through the broader facility and even into the supply chain. And it’s working. A recent study issued by the European Commission’s Joint Research Center (JRC) reports that tissue manufacturers and converters that implement best available technologies (BATs) and practices could easily decrease their energy consumption by 14% and greenhouse gas emissions by 62% over levels documented in 2015.²

However, reducing energy consumption isn’t the sole issue. A natural tension exists between the pulp and paper industry and its products’ end-users. While consumers depend on the tissue products the industry produces, they are also sensitive to the ecological stressors the processes involved in tissue converting, production, packaging, and distribution pose.

Fiber sourcing, management, replenishment, and alternatives often top the list of concerns — which is logical given the paper industry’s reliance on it. However, the broader view of sustainability reveals several more opportunities for better ecological stewardship within tissue converting and manufacturing.

**PIVOTING AWAY FROM PLASTICS: SUSTAINABLE PACKAGING ALTERNATIVES**

Annual global plastics production is projected to be 650 million tons by 2035.³ Nearly half of the plastic — about 260 million tons — will be used strictly for packaging.³ This disproportionate over-reliance on plastic packaging is fueling global plastics legislation.
Several EU nations are cracking down on single-use plastics, tax levies on plastics use, and measures surrounding recyclability. In the United States, plastics producers are forming coalitions and adopting business models intended to optimize a range of environmental, economic, and societal outcomes. One such coalition, the New Plastics Economy, is comprised of global businesses that collectively produce 20% of all plastic packaging. All of the coalition’s members are keenly focused on driving change to support a circular economy by as early as 2025.4

The pivot away from plastics is also giving tissue manufacturers and converters pause. Bioplastics or other environmentally friendly materials aren’t currently available on an industrial scale, which elevates their price points and, ultimately, total delivered costs (TDC). However, this barrier to broad-based use is likely temporary, since less expensive materials will eventually appear on the market as a result of the economies of scale.

The opacity of paper and poly wraps is also a stumbling block, since consumers are conditioned to “see before they buy.” However, current buying behaviors in diapers and feminine care products that are shelved in opaque wrap suggest that the “must-see” mindset is shifting due to concerted marketing efforts and brand loyalty building. Further, tissue products sold through ecommerce do not require transparent packaging, since consumers buy online based on brand experience and trust. Taken in total, then, consumer attitudes toward the adoption of paper and poly wraps for tissue products are changing, and are perhaps less prohibitive than they initially appear.

Asserting these prevalent industry objections is a luxury in the United States, where replacing poly material with more sustainable alternatives remains optional. However, as evidenced by eco-centric legislation in Europe and other countries, the option will be short-lived.

Instead of waiting for change to be required, tissue industry leaders are leaning into finding practical solutions now. For example, Fabio Perini and partnering companies explored certain FSC-certified 100% biodegradable virgin papers and recycled papers, developing 100% compostable Bio paper with Vinicotte OK compost certification, and 100% recyclable and biodegradable paper.

These papers ensure excellent puncture resistance and product protection, and their coupling, lamination, or extrusion to bioplastics provide good pack sealing and an optimal moisture barrier. To aid in the transition and help manage costs, Fabio Perini also developed a technical improvement program known as Bio-pack to ensure all tissue packaging equipment — any size or format — can wrap packs with 100% eco-friendly material or paper reels combined with bioplastics, with no quality issues or line disruption.

**AN ADHESIVE-FREE FUTURE**

Eliminating plastic packaging is just one way tissue manufacturers and converters are contributing to long-term sustainability. Research and development continue into product and technology advancements that greatly reduce dependence on materials and processes that stress the environment. Of particular focus is the elimination of adhesives — one of the few chemicals used in tissue converting.

Converting paper to bathroom tissue or toweling is an adhesive-intensive process. It requires a total of four adhesives and binders: one used during core winding, a second during pickup/transfer, a third for ply bonding lamination, and a fourth seals the tail.

The traditional adhesives used in bathroom tissue log production, for example, have been studied at length and found to be poorly degradable as solid waste, a threat to wastewater treatment, and exceedingly dependent on oxygen consumption during the prolonged organic breakdown. There is also the matter of cost; like packaging, adhesives, and binders can influence TDC anywhere from 0.5-2.0% on value/super-premium branded products in the U.S.5

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**Web tuck glueless rewinder technology** that allows initial core pick-up without adhesive to make production sustainable, less messy, less wasteful, and more cost-efficient.
Tissue converters find themselves stuck between the need for adhesives and the ecological consequences of using them. But, are they?

Removing adhesives from the tissue converting process can simplify operations and generate significant cost savings. Fabio Perini has developed adhesive-free solutions such as:

**Sustainable water lamination** that utilizes a technology known as Aquabond which replaces adhesive with water during ply bonding and embossing, without requiring new machinery or compromising the machine’s mechanical features and final product quality. Available for virgin or recycled paper fiber, this glueless technology ensures quality adhesion of the plies even at high speed, provides efficiency comparable to adhesive-based ply bonding, and cuts production expenses by completely eliminating adhesives.

**Web tuck glueless rewinder technology** that allows initial core pick-up without adhesive to make production sustainable, less messy, less wasteful, and more cost-efficient.

**A tail sealing system** that joins the tail to the roll using mechanics instead of adhesive. This glue-free technology ensures perfect sealing, simplifies starting a new roll — no more wasted initial sheets, improves finished roll quality, incrementally increases line efficiency, and ends downtime related to glue in the accumulator, log saw, or packaging unit.

**GETTING TO THE CORE OF NO-CORE TISSUE PRODUCTS**

Eliminating adhesives is a huge step forward, and Fabio Perini identified an opportunity to also leverage two no-core rewinding solutions — one that eliminates the traditional cardboard core altogether, and another that substitutes an extractable mini roll for away-from-home market use.

Of course, removing the traditional core has immediately identifiable environmental benefits: no adhesives needed for core making and pickup/transfer, and the rewinding technology of an extractable roll reduces packaging material by up to 10%. The advantages of these no-core rewinding technologies multiply exponentially when viewed in the larger context:

- **Reduced TDC**, since the cost of cores is equivalent to 1.0-2.0% for value/super-premium branded products in the U.S.
- **Optimized transportation** — up to 16% more product fits on a standard truck.
- **Zero waste with every tissue roll.**

Sustainability is multi-faceted, and protecting the environment is everyone’s responsibility. Tissue manufacturers and converters have opportunities to not only lean into their own initiatives but also help their customers contribute to the global cause.

REFERENCES

4. New Plastics Economy, Global Commitment (web page), Undated.
Registration now open!

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Due to comprehensive networking of Paper2020 attendees, the Paper2020 Convention Daily offers a unique advertising opportunity for:

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- Suppliers of equipment and service

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Over the course of the next three to four years, Turkey could provide a home for a significant proportion of Europe’s recovered fiber surplus, it was indicated at the latest meeting of the Bureau of International Recycling (BIR) Paper Division, which took place at BIR’s World Recycling Convention in Budapest, Hungary, Oct. 14-15.

By the year 2023, Turkish paper mills are expected to have developed a combined annual production capacity of between 6 and 7 million tonnes. However, the country’s current collection rate of around 40% for recovered paper is well below that achieved by many developed countries and “is not increasing,” explained guest speaker Ercan Yürekli from TÜDAM, the national association of Turkish paper and plastic recyclers and collectors. As a result, he estimated that there will be a need for annual imports into Turkey of perhaps 2 to 3 million tonnes of recovered fiber, meaning that the country could provide “a solution for some of Europe’s surplus.”

Under current waste management regulations in Turkey, only recyclers are allowed to import recovered paper whereas collection companies cannot. The country’s imports have soared from just over 300,000 tonnes in 2015 to more than 725,000 tonnes in 2018, with a figure nearer 1 million tonnes anticipated for 2019.

New capacity is also emerging in Sweden, it was reported by divisional Vice President Martin Leander of Stena Metall International AB. At the same time, the insulation and hygiene sectors have been trialing wider use of recovered fiber in their products.

Earlier in the BIR Paper Division’s meeting, the body’s General Delegate Sébastien Ricard of France-based Paprec explained that Europe’s structural surplus of recovered fiber is currently approaching 8 million tonnes per year, with annual collections of 56.7 million tonnes exceeding consumption of 48.8 million tonnes. “So we need exports in Europe,” Ricard emphasized. “We need new markets.”

Until recently, China’s demand for European fiber had represented the market’s balancing factor. However, the recent shift in Chinese policy has resulted in a steep decline in its overall fiber imports — from around 28 million tonnes in 2017 to perhaps only 5 million tonnes next year, according to Mr. Yürekli. To make matters more difficult for Europe’s exporters, most of China’s recovered paper quotas have been used to purchase from the USA instead, Mr. Ricard noted.

With opportunities to sell into China, described as “very few” by Mr. Ricard, prices in Europe have “collapsed” and cardboard is currently around the low recorded in August 2009. Mills have taken advantage of the steep drops in fiber prices by becoming “more and more demanding on quality,” he added.

BIR Paper Division Vice President Martin Soth of Pieringer Abfall Verwertung GmbH in Austria pointed to falling prices in Eastern Europe and problems with deliveries because Western companies have been keeping the region’s mills well supplied — something which did not happen, when China was more active in the market, he added.

Supported by factors such as the continuing growth in online shopping, cardboard prices may well increase at some point in the future, “but with a premium on quality,” Mr. Ricard concluded.

Currently, BIR represents over 760 member companies from the private sector and 36 national associations in more than 70 countries. Together, these members form the largest international recycling federation. To learn more, visit: bir.org.
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