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# UPM Paso de los Toros Off to a great start

# Digitalization in Pulp and Paper Mills

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UPM's 2.1 million tonnes per year eucalyptus pulp mill started up in April 2023 and the mill is moving towards reaching nominal capacity by the end of the year. The mill will eventually boost UPM's current pulp capacity by more than 50%. General Manager Marko Sundqvist reports that the first months of the mill in action have proceeded according to plan.

## 24 Digitalization in Pulp and Paper Mills: Small Steps Can Give Big Benefits

Implementing digitalization in pulp and paper is not an all-or-nothing choice. Increased digitalization can be done in smaller, systematic steps which by themselves give valuable incremental benefits. The challenge is knowing where, when and how to target areas for digitalization that give the fastest payback.

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Demand for more greener packaging is aligning with innovation in industrial applications to future drive sales of specialty papers. Consumption of specialty papers is forecast to increase at a +2.1% compound annual growth rate across 2023-2028, adding an extra 2.97 million tons of demand, globally, over the five-year period.

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### editors note -



# Did you hear the one about...

By John O'Brien, Managing Editor jobrien@paperage.com

Four packaging CEOs meet at a sustainability conference, each representing a different substrate. "My products are more sustainable than yours," starts the paper packaging CEO. "Fiber-based packaging is the only compostable substrate, and it degrades faster than other alternatives."

The plastic packaging company CEO responds immediately, "My products are more sustainable than yours. Plastic packaging has a very low carbon footprint, and it is increasingly becoming recyclable."

The glass packaging company CEO cannot hold back: "You talk about recyclability, but my products are actually recycled, without downcycling. Plus, you can reuse them, cutting down the footprint even further."

Finally, the metal packaging company CEO chips in, too: "My products are fully recycled, without downcycling, and metal cans are much more lightweight than glass, resulting in lower carbon emissions when transported."

The anecdote above is from a Bain & Company report, "Which Packaging Substrates Are the Most Sustainable?" The authors point out that although the CEO discussion is imaginary, the arguments about which products are the most sustainable are all very real.

"Whereas companies historically considered cost, functionality, and consumer experience as they determined which substrate to use for a given product, now sustainability is top of mind for everyone from regulators to consumers to the C-suite," the article states.

I'm bias towards paper-based packaging, but the authors point out that there is no clear winner among the substrates. "Even though some substrates such as rigid paper may have an edge, it's too early to tell. And across geographies, there is still not a shared understanding of what is necessarily the preferred or most sustainable type of packaging."

I get it. Trying to break down sustainability and what it means to consumers, consumer goods

companies, regulators, etc. is a complex task, especially for producers of paper, plastic, glass and metals.

The fly in the ointment, so to speak, is the consumer. As Bain points out, while consumers say they would pay a premium for sustainable products and brands, some perceive them as being too expensive.

And, Bain says, different segments of consumers tend to engage at different levels — for instance, about 40% of consumers already report caring about the planet in the EU and US. But in general, for consumer goods companies to deliver on circularity targets, more consumers will need to make trade-offs by trying new packaging presentations or sensory experiences. They'll also need to participate in waste sorting and reverse logistics programs. Today, only 14% of EU consumers and 8% of US consumers claim environmental, social, and corporate governance (ESG) issues as purchase criteria, according to Bain.

Regardless, sustainability is a huge deal right now and is only going to get bigger and more involved. For the paper industry, educating consumers about the circularity of paper and paper-based packaging is critical. Organizations like AF&PA (www. afandpa.org), the Paper and Packaging Board (www. paperandpackaging.org), Cepi (www.cepi.org), Two Sides (twosides.info) and Two Sides North America (twosidesna.org), just to name a few, continue to be invaluable partners to the industry through their advocacy efforts and publication of educational information made available to the public and paper industry alike.

And, of course, the paper producers themselves should be congratulated as they continue to innovate and develop sustainable substitutes for plastic packaging.

With that said, it's time for me to step down off my soapbox and wish everyone a happy and safe holiday season.



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Copyright ©2023 by O'Brien Publications, Inc. All rights reserved. PaperAge (ISSN:0031-1081) is published five times per year with those issues being January/April, May/June, July/August, September/October, November/December by O'Brien Publications, Inc., **PO Box 904, Cohasset, MA 02025.** Periodicals postage paid at North Reading, MA.

Canadian Mail distribution information: Publication Mail Agreement #40112731 Ontrac International P.O. Box 25058, London BRC. Ontario, Canada N6C 6A8

#### POSTMASTER: Please send change of addresses to: PaperAge, PO Box 904, Cohasset, MA 02025

Subscriptions: PaperAge is mailed without charge in the U.S. and Canada (upon written request) to qualified individuals in the pulp, paper, paperboard, and paper converting industries. To all others there is a subscription charge of \$45.00 in the U.S., \$50.00 in Canada, and \$75.00 in all other countries. Single copies may be purchased for \$10.00 each. All payments must be made in U.S. funds and checks must be drawn from a U.S. bank. Credit cards are accepted.

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# industry news

#### NORTH AMERICA

#### International Paper to Close Containerboard Mill in Texas; Reduce Fluff and Softwood Pulp Capacity

International Paper in mid-October announced a series of actions to further strengthen and optimize its manufacturing system to meet customers' needs. The company will permanently close its containerboard mill in Orange, Texas, and will permanently cease production on two of its pulp machines the #20 machine in Riegelwood, North Carolina, and the #4 machine in Pensacola, Florida.

"Decisions like these are extremely difficult, because of the impact on our employees, their families and the communities in which we operate," said Chairman and CEO Mark Sutton. "We are grateful to our employees in Orange, Riegelwood and Pensacola for their significant contributions to the company over the years. We are committed to providing severance benefits, outplacement assistance and more to help employees during this time."



In total, approximately 900 positions will be impacted. Wherever possible, the company's goal is to minimize the impact on employees by using current vacancies, retirements, normal attrition and other roles at International Paper.

The permanent closure of the Orange mill will reduce the company's containerboard capacity by approximately 800,000 tons. The company's remaining containerboard mill system in North America will include 17 mills with an annual production capability of 13MM tons.

The actions in Pensacola and Riegelwood will reduce IP's pulp capacity by approximately 500,000 tons (300,000 tons fluff pulp and 200,000 tons southern bleached softwood). The company's remaining pulp mill system will include eight mills with an annual production capability of 2.7MM tons.

"We believe strongly in the attractive, long-term fundamentals of our businesses and these actions further strengthen our competitive platform. Our optimized mill system, with its broad capabilities, gives us the flexibility to meet our customers' needs today and in the future," said Sutton.

The company expects the Orange mill and the #20 machine in Riegelwood to cease production by the end of the year. The #4 machine in Pensacola is currently idled and will not resume production.

#### Sappi Cloquet Dissolving Pulp Facility Completes Higg FEM Assessment

Sappi has completed the Higg Facility Environmental Management (FEM) verification audit at its Cloquet mill in Northern Minnesota. The mill is one of the leading dissolving pulp facilities to complete this external verification process. A final score of 91.5% was achieved which reinforces and demonstrates the sound environmental practices employed by the mill.

Sappi's dissolving pulp is sold under the brand name Verve.

"As a global leader in dissolving pulp manufacturing, we are excited that our commitment to the sustainable manufacture of our Sappi Verve product is confirmed by the SAC Higg FEM results," said Tom Radovich, Managing Director of Sappi North America's Cloquet mill. "We have an increased focus on chemicals management practices as we move towards a more circular economy, addressing changing needs while managing our environmental footprint."

Cloquet received a verified score of 100% across energy, water as well as wastewater management highlighting the mill as a pocket of excellence in terms of resource efficiency and emission control.

Through structured focus, the facility plans on increasing scoring in the area of Chemicals Management in upcoming assessments.

#### About Higg FEM

Developed by the Sustainable Apparel Coalition (SAC), the Higg FEM is part of a suite of tools that enables manufacturing facilities of all sizes to measure and score their environmental



performance against a standard set of criteria, allowing for meaningful and credible performance benchmarking in the apparel and textile sector. Across topics such as water use, carbon emissions and waste management, the Higg Index can be used by consumer goods brands, retailers, manufacturers, governments, NGOs and consumers to inform their individual sustainability strategies and drive collective industry transformation.

#### NORTH AMERICA

#### Unicorr Packaging Acquires Pennsylvania-based TriState Container

Unicorr Packaging Group in November announced the acquisition of TriState Container Corporation.

Financial terms of the deal were not disclosed.

For over 70 years, TriState has provided corrugated packaging products and services to customers located in the Northeastern United States. The company operates out of three facilities in the Philadelphia-area. TriState has the capabilities to manufacture highly customized corrugated packaging of any size, including high-graphic packaging products through its ProCorr brand, and has recently installed a single-pass digital press.

The acquisition will expand Unicorr's manufacturing footprint into Pennsylvania, offering increased capability and flexibility for both Unicorr and its customers.

"This acquisition strategically marks the next phase of growth for both Unicorr and TriState, and combining capabilities, services, and expertise across all locations will offer significant benefit to our customers," said Hap Perkins, CEO of Unicorr. "The geographic expansion and strong cultural fit along with the potential for cross-selling opportunities makes the combined company well-positioned for growth."

Unicorr, like TriState, is a multi-generation family-owned business. Perkins runs the business alongside his three sons, Matt, Nick, and Jim.

Allen Friedman, President of TriState, will remain with the company as the Vice President of TriState Container and Jim Perkins will be joining the TriState management team.

The TriState and ProCorr brands, which have long been established in the



Philadelphia-area, will remain and TriState will operate as a subsidiary of Unicorr.

Beyond being a strong cultural fit, the combined businesses will be able to provide virtually all types of corrugated packaging from standard brown box to high-end graphic packaging as well as sizes from mini to jumbo to customers based in the Northeast. Unicorr also provides protective packaging products consisting of foam, wood crates, and pallets, and supplies.

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## industry news

#### NORTH AMERICA

#### **RYAM Explores Potential Sale of Témiscaming Pulp and Paperboard Mill in Quebec**

Rayonier Advanced Materials (RYAM) announced that it has engaged Houlihan Lokey as its financial advisor to explore the potential sale of its paperboard and high-yield pulp assets located at its Témiscaming site.

RYAM on Oct 7 temporarily idled the Témiscaming mill's paperboard operation and one of its high-yield pulp lines for 3 weeks to "optimize inventory levels and address lower-than-anticipated demand."

In an Oct. 13 press release about the potential sale of the Témiscaming mill,



RYAM said, "This strategic move is aligned with RYAM's commitment to enhancing its operational and financial performance, optimizing its portfolio to align with its long-term growth strategy, and providing flexibility to pay down debt and reduce leverage. The engagement of Houlihan Lokey, a renowned global investment bank, underscores RYAM's dedication to a rigorous and diligent evaluation of its strategic options."

The Témiscaming mill, which is located in Quebec, Canada, produces high-purity cellulose, high-yield pulp, and coated paperboard. Its operations are powered by carbon-neutral hydroelectricity, and a renewable biomass power generation system on-site, which produces renewable energy for the Hydro Quebec grid.

The mill employs around 700 people.

#### Paper Excellence Further Extends Paper Production Curtailment at Crofton Mill

Paper Excellence Canada on Nov. 23 announced that it is further extending the curtailment of paper operations at its pulp and paper mill, located on Vancouver Island in Crofton, British Columbia, Canada, to the end of February 2024.

In October, Paper Excellence announced the curtailment of paper operations at Crofton would continue to the end of November with a December restart hinging on a reassessment of market conditions. However, "challenging market conditions have not recovered as anticipated," the company said.

The Crofton mill's primary market for its paper products (specialty papers, printing and writing paper) is China, and continued weak pricing in the global paper markets have hindered the restart of the mill's papermaking operations.

"Unfortunately, the continued curtailment means that approximately 70 paper operations employees will not return to work in December," Paper Excellence said.

The Crofton mill's pulp operations, which supports approximately 400 union and salaried staff employees, will continue production during the extended paper curtailment.

Paper Excellence Canada noted that it will continue to supply customers with products typically made at Crofton from other mills within the Paper Excellence Group where possible.

#### Georgia-Pacific Completes \$175 Million Investment at Dixie Facility in Darlington

Georgia-Pacific recently completed a \$175 million investment into its Dixie tableware facility in Darlington, South Carolina. The improvements will expand its plate and bowl production operations to meet customer and consumer demand for these popular disposable household products.

The Darlington facility now has additional printing capability, state-of-the-art plate presses and a new finished goods warehouse.

The expanded facility also created 100 new full-time jobs. The facility currently has 500 total employees.

"This is an exciting time for our business," said David Duncan, executive vice president of the Consumer Products Group at Georgia-Pacific. "Investments such as the one made at the Darlington facility are important to our long-term growth aspirations for the Dixie business and signal a commitment to meeting those goals and our partnership with the Darlington community."

Dixie has long been an integral part of the Darlington community. Dixie products have been produced in the city since 1943, and plates have been produced at the current site since 1963. Georgia-Pacific acquired the plant in 2000. Construction for the expanded facility - now at more than 530,000 square feet - started in March 2020.



Over the past 10 years, the Darlington plant has made more than 65 billion plates.

#### SOUTH AMERICA

#### Suzano to Invest R\$1.7 Billion for New Tissue Mill and Biomass Boiler

Suzano announced that its Board of Directors has approved an investment of one billion, one hundred seventy million reais (R\$1,170 million) for two major projects in Brazil.

#### New Tissue Mill/Converting Operations

The first project involves the construction of a tissue paper mill with the capacity to produce 60,000 tons per year. The site will also have converting operations for the production of toilet paper and paper towels. The mill will be located in the municipality of Aracruz, in the state of Espírito Santo. The total investment is estimated at six hundred fifty million reais (R\$650 million). Suzano expects the beginning of operations in the first quarter of 2026.

Suzano's intention to build the new tissue mill and converting operations was previously

announced in December of 2022. Final investment in the project had been awaiting Board approval.

Suzano plans to fund the investment using its balance of ICMS tax credits in the state, which should result in an estimated net disbursement of approximately one hundred thirty million reais (R\$130 million) in the project.

#### New Biomass Boiler at Aracruz Pulp Mill

The second project involves the construction of a new biomass boiler at Suzano's pulp mill in Aracruz, which will replace the current boiler, at an estimated investment of five hundred twenty million reais (R\$520 million).

The new biomass boiler should go operational in the fourth quarter of 2025.



Suzano noted, "the above-mentioned investments are aligned with its business strategy, since they represent progress in its market positioning in the consumer goods segment and the strengthening of its structural competitiveness in pulp production."



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# industry news

#### SOUTH AMERICA

#### Suzano Investing R\$490 Million at Limeira Mill to Expand Fluff Pulp Capacity

Suzano plans to invest R\$490 million (approximately US\$100 million) in a new fluff pulp line. This investment will support the conversion of a BHKP pulp line at Suzano's Limeira mill in Sao Paulo, Brazil, into a flex machine to produce Suzano's Eucafluff® or BHKP.

Suzano's installed capacity of fluff pulp production will increase from 100,000 tons per year to 440,000 tons per year, with production expected to begin by Q4 2025.

"Suzano is committed in investing in innovative solutions which have a positive environmental impact, bring cost efficiency, and which are scalable businesses," said Leonardo Grimaldi, Executive Officer - Commercial Pulp, Fluff and Logistics at Suzano. "Eucafluff



is a perfect example of this."

Suzano noted that the global fluff market is currently estimated to be 6.4 million tons annually, with a forecasted CAGR of 4,2% for the following years according to independent consultants, fostered mainly by the growth in adult diapers, due to the aging population and a growing middle class using more hygiene products globally.

"Following many years of R&D, we have been able to pioneer the use of fluff made from planted eucalyptus, which has characteristics that enhances multiple features of our customers' products. Ongoing projects with several global customers and rising demand for Eucafluff has made us confident that now is the right time to scale up our production," Grimaldi explained.

Eucafluff is the world's first bleached kraft fluff pulp made from 100% planted eucalyptus. It is result of nearly 15 years of research conducted by Suzano.

#### EUROPE

#### Metsä Board Starts-up BM1 at Husum Mill after Capacity Expansion

Metsä Board has completed a modernization project to expand folding boxboard production capacity of board machine 1 (BM1) at its Husum integrated pulp and paperboard mill in Sweden. With the start-up of BM1, the mill's annual production capacity of folding boxboard (FBB) will be increased by 200,000 tons to reach 600,000 tons.

The machine produces premium lightweight folding boxboards with a basis weight range of 175-355 g/m2. The products are used for packaging dry food and frozen food, chocolate, confectionery, pharmaceutical and healthcare products, beauty care products as well as for food service and graphic applications.

Full production capacity is expected to be reached by the end of 2025.

Metsä Board first announced pre-engineering plans to increase the annual production capacity of FBB on BM1 in January 2021. In July 2021, the company then determined the investment would be EUR 210 million.

According to Metsä Board, the expansion of folding boxboard capacity is in response to the growing demand for packaging materials made of renewable resources.

"By increasing Husum's production capacity, we are responding to the growing demand for packaging materials that support the circular economy," said Mika Joukio, CEO of Metsä Board.

The capacity expansion involved extending the length of the BM1 and adding more drying capacity. However, the machine extension is only part of the extensive project. Improvements have also been done in other parts of the machine line to improve runnability and quality consistency. The off-machine coater has been upgraded to accompany higher speeds and larger jumbo rolls. At the



same time the logistics of transporting on site jumbo rolls between the board machines, coater, extrusion coating line and winder is now fully automated.

The additional capacity will be directed mainly to the North American and European markets, where the demand growth for Metsä Board's premium lightweight paperboards is expected to continue.

#### EUROPE

# DS Smith to Invest EUR 90 Million in New Biomass Boiler for Rouen Paper Mill

DS Smith announced a major investment for its Rouen paper mill in Normandy, France, that includes replacing the coal-fired boiler with a new biomass boiler that will reduce the site's emissions by 99,000 tonnes of CO2 per year.

Valmet will supply the 56 MW high-tech boiler that will generate at least 80% of the site's heat demand and will be fully operational by the first quarter of 2025. It will be fueled by 94,000 tonnes of biofuel, 30% of which will come from plant by-products (pulper waste) and 70% from waste wood sources such as furniture and demolition waste.

Engie Solutions will operate the boiler, which will allow for the possibility for the future installation of a steam turbine capable of producing around 10 MW of electricity with a maximum steam supply of 65 t/h. The project was granted approval by the Regional Biomass Scheme in 2022 and is supported by local authorities including a EUR 15 million subsidy from the French Agency for Ecological Transition (ADEME).

In addition to the biomass boiler, two new gas-fired boilers (2 x 34 t/h of steam) will complete the back-up boiler fleet already consisting of an existing gas-fired boiler (34 t/h of steam).

Acquired by DS Smith in 2019, the paper mill in Rouen was founded in 1928 and was the first mill in France to produce lightweight recycled fluting, used in the manufacture of corrugated board. The mill, which operates one paper machine (PM5), also produces light, medium and dual-purpose papers for consumer goods and e-commerce packaging. It has an annual production capacity of 280,000 tonnes.

#### Saica Group Acquires Waste Management Company Ecovidal in Madrid

Spanish recycled paper producer Saica Group has reached an agreement to acquire the total shares of the waste management and collection company, Ecovidal-Miguel Vidal e Hijos. Through this acquisition, Saica's waste management and environmental services business, Saica Natur, strengthens its presence in the Henares corridor — an important business, industrial and residential area in the northeast of the Madrid region of Spain.

Ecovidal manages up to

53,000 tonnes of waste annually, the vast majority of which (92%) is paper and cardboard. The acquired company has 25 employees and in 2022 had a turnover of 10 million euros.

Located in the municipality of Torrejón de Ardoz (Madrid) with a warehouse spanning almost 16,000 square meters, Ecovidal has been supplying recycled paper to Saica Paper mills for over four decades, establishing a long-standing business partnership.



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# industry news

#### EUROPE

#### MM Group Reduces and Refocuses Investments at Kwidzyn Mill in Poland

MM Group has decided to significantly reduce the planned multi-year strategic investment project at its Kwidzyn pulp and paper mill in Poland. The project will now focus investments on renewable energy, further pulp integration and product portfolio.

MM Group said the decision is due to "uncompetitive wood prices from the Polish State Forestry Monopoly and significantly reduced market demand for paper and cardboard products."

In addition, MM Group has started discussions with employee representatives about a possible closure of the small paper machine (PM 3) for packaging kraft paper and about



restructuring, which could lead to a reduction in the workforce of around 110 employees.

In April 2023, MM Group announced that it would invest EUR 660 million at MM

Kwidzyn, which included a new recovery boiler and a new steam turbine; a second pulp line and a pulp dryer; and the conversion of paper machine 1 (PM1) from the production of copy paper to sack kraft paper.

MM Kwidzyn will continue pulp and virgin fiber board production unchanged. In the paper sector, the PM 1 and PM 2 paper machines will continue to produce up to 360,000 tonnes per year of uncoated fine paper and 40,000 - 80,000 tonnes per year of its IPACK Strong Pro packaging kraft paper. Since one of the fine paper machines has not been converted, no sack kraft paper will be produced in Kwidzyn.

#### ProGroup to Take Over Sappi Stockstadt Mill; Convert Production to Containerboard

ProGroup announced that an agreement has been signed with Sappi whereby ProGroup will take over Sappi's Stockstadt pulp and paper mill in Germany.

Terms of the deal were not disclosed.

The Stockstadt Mill is an integrated pulp and paper mill with a production capacity of 220,000 tpy of coated and uncoated woodfree paper and 145,000 tpy of pulp (for internal use).

In 2022, Sappi put together a deal to sell three of its European mills, including Stockstadt, Maastricht (Netherlands), and the Kirkniemi Mill (Finland) to Aurelius Group. However, in April of 2023, Sappi announced that the deal had "...not materialized within the agreed timeframe of the contractual agreement and therefore the agreement has lapsed."

In response, Sappi on July 6, 2023, announced the start of a consultation process on the possible closure of Stockstadt Mill, followed by an announcement in October that an agreement was signed for the sale of



the site with closure to be completed during the first calendar quarter of 2024.

According to ProGroup, the paper mill provides "the opportunity to design another site for the circular economy. The intention is to develop a concept step by step so that the company can use a closed material loop to manufacture containerboard in a sustainable and innovative way."

In a press release, ProGroup said, "The

site is set to be taken over in April 2024. The dismantling of the old facilities will then be planned and implemented. This step is needed to create space to implement the future site concept and will be completed during the course of 2025. Alongside this, specific plans and technical reports will be drawn up and will serve as the basis for permit applications and forthcoming investments."

#### AUSTRALIA

#### AusWaste Recycling to Build Recycled Pulp Mill in Queensland, Australia

One of Australia's biggest paper recycling facilities will be built in South East Queensland with plans to turn 220,000 tonnes of waste paper and cardboard from across Queensland and northern New South Wales into pulp annually for export.

The Albanese and Queensland Labor Governments have partnered with Brisbanebased national company AusWaste Recycling to build a \$137 million waste paper recycling facility in the city of Brendale, Queensland, Australia.

The Australian Recycled Pulp and Paper Project (ARPPP) is supported by a joint investment of \$40 million from the Commonwealth and state Labor governments through the Recycling Modernisation Fund. Industry is also playing a key role, contributing \$97 million to the total project cost.

Construction of the ARPPP is expected to begin in mid-2024 and be completed



in mid-2025.

This funding is part of a \$1 billion boost to recycling infrastructure that will add over one million tonnes of processing capacity across the country every year, keeping valuable materials out of landfill while supporting new jobs.

AusWaste Recycling Director, Vincent Liang, said, "Our core business is the export of commodities like processed pulp from waste paper which are sought after in foreign markets. Instead of baling and shipping waste paper we'll be processing and manufacturing a higher-value product.

"We already have well-established relationships in Asia with paper mill operators who are seeking paper pulp and the ARPPP will mean we're ideally positioned to provide it to them," Liang concluded.

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# industry news

#### INDUSTRY SUPPLIERS

#### Valmet Completes the EUR 380 Million Acquisition of Körber's Business Area Tissue

Valmet on Nov. 2 completed the acquisition of Körber's Business Area Tissue, a provider of process technologies and related services for converting tissue jumbo reels into final tissue products.

The enterprise value of the acquisition is approximately EUR 380 million on a cash and debt free basis subject to ordinary post-closing adjustments.

The new tissue converting business will operate as a business unit integrated in Valmet's Paper business line. It focuses on delivering and serving converting lines for rolled and folded tissue products, packaging



equipment and on providing digital solutions and services.

The acquired business enables Valmet to serve the tissue industry with wider expertise, process technologies and services covering end-to-end solutions including automation systems and flow control equipment.

"The acquisition is a good strategic fit and complements Valmet's tissue making offering with strong expertise and complete solutions from tissue converting to packaging," said Pasi Laine, President and CEO of Valmet. "By entering the tissue converting business, we take again a step forward with strengthened

capabilities to serve our global customers even better."

Valmet estimates that the acquisition will bring sales, service and cost synergies worth of EUR 8 million by the end of 2026.

#### Voith and Asia Symbol Start-up Boxboard Machine at Rugao Mill in Shanghai, China

Voith announced the successful start-up of Asia Symbol's BM 13 at Rugao, located 180 km north of Shanghai, China. The state-ofthe-art machine is 8.16 meters wide with a design speed of 1,400 m/min and an annual capacity of around one million tons.

BM 13 mainly produces high-quality white folding boxboard in the basis weight range of 170 to 400 gsm.

The full-line solution supplied by Voith for BM 13 includes a wide portfolio of solutions, from BlueLine stock preparation and intelligent XcelLine paper machine to two VariFlex Performance winders with a fully automated Flying Splice reel change.

In addition to the resource-saving Triple NipcoFlex press, an energy-efficient EcoHood dryer hood, ropeless transfer in the dryer section and contactless qDry Pro



drying with the HelioX infrared emitters are installed.

Voith also supplied a comprehensive wear parts package and a wide range of automation

solutions, including the OnControl MCS, DCS, Drive Control, OnQuality MD/CD Control and the OnCare Health condition monitoring system.

# spotlight

# **Safety Starts with Me**

With a dedicated effort, Sappi North America achieved its best safety performance ever.

S appi North America's employees and contractors in fiscal 2023 achieved a record low for Lost Time Injuries (LTI) in the history of Sappi North America.

Sappi North America's exceptionally low rate of lost time injury is a point of pride and distinction for all involved, especially Mike Haws, President and CEO of Sappi North America, who emphasizes that safety is the most important priority at Sappi.

"I want to thank all of our Sappi North America employees and contractors for their outstanding safety performance over the past year," says Haws. "In FY23, Sappi's number of Lost Time Injuries (LTI) was the lowest ever for SNA employees. Including contractors working on Sappi sites, our combined LTI equaled the best ever in the history of SNA. We also set new annual records for our Lost-Time Injury Frequency Rate (LTIFR), which was 0.08 for SNA employees and 0.14 for combined SNA employees and contractors. In our fourth quarter, we had zero lost time injuries to SNA employees and contractors.

"Fiscal Year 2023 was a record safety year for the Somerset Mill, with a record low OSHA recordable injury rate of 0.70. The Somerset mill exceeded 4 million hours and 11 consecutive quarters without an LTI. For the first time in the almost 50-year history of the pulp mill, which includes the woodyard, pulping, pulp furnishing, U&R and the wastewater treat ment plant, the team worked throughout the fiscal year without a recordable injury.

"In November, SNA sites collectively surpassed 1.3 million safe work hours



"It is clear that everyone on our SNA team personifies our motto: 'Safety starts with me'."

 Mike Haws,
 President and CEO of Sappi North
 America (standing in center).

without a recordable injury. Also in November, Cloquet surpassed 1 million safe work hours without a LTI for the eighth time in the last 15 years, including 2 million safe work hours in two of those years.

"Matane, Westbrook, Allentown and the Tech Center all worked lost-time injuryfree for the entirety of FY23. Matane reached a record sixth year without a LTI, Allentown has achieved seven years without an LTI and the Technology Center at 17 years without an LTI.

"Safety is our most important priority at Sappi, and I am proud of our remarkable safety achievements this year. It is clear that everyone on our SNA team personifies our motto, "Safety starts with me," and takes responsibility for themselves and everyone else working at our sites. I thank you and congratulate you for your incredible dedication to keeping yourselves and your teammates safe," Haws concluded.

#### About Mike Haws

Mike Haws has been President and CEO of Sappi North America since 2019.

"I focus on leading all Sappi North America operations to drive our success through strategic investments and innovation, dedication to a zero injury workplace, attracting world-class talent, and ultimately creating outstanding and sustainable products and services that consumers demand," Haws notes.

Previously, Haws was the Vice President, of Manufacturing for Sappi responsible for the Somerset, Cloquet, Westbrook and Allentown operations as well as the Research and Development facility.

With over 30 years of experience in the paper industry, Haws joined Sappi in 2012 as Managing Director of the Somerset Mill. Prior to Sappi, he had held a variety of operational roles with Verso Paper, International Paper and Champion International.

Haws holds a BS in Paper Science and Engineering from the State University of New York College of Environmental Science and Forestry.

### eldoed

#### PAPER

■ *Ilim Group* appointed Aleksei Lomko as Chief Executive Officer of JSC Ilim Group, effective October 30, 2023. Lomko replaces Ilim's



former CEO, Kseniia Aleksei Lomko Sosnina, who stepped down in mid-July 2023 due to the expiration of her employment contract.

Monadnock Paper Mills announced the appointment of Dr. Heather Starkey to the role of Research Scientist. Dr. Starkey has worked at Georgia-Pacific, Chung



Heather Starkey

Hwa Pulp Corporation, and most recently Ingredion, where she led crossfunctional product teams developing new starch technologies for adhesive applications and barrier coatings.

Stora Enso has appointed Ad Smit as Executive Vice President of the Packaging Solutions division and a member of the Group



Ad Smit

Leadership Team, effective December 1. He replaces David Ekberg, who left the position to pursue new opportunities outside of Stora Enso. Most recently. Smit led the Business Unit Western Europe within Stora Enso's Packaging Solutions division since January 2023. Prior to that, he served as the CEO of De Jong Packaging Group, which Stora Enso acquired in January 2023.

■ UPM has appointed Massimo Reynaudo as President and CEO of UPM-Kymmene Corporation, effective January 1, 2024. Jussi Pesonen will continue



as the President and CEO until Dec. 31. after which he will work as an advisor to the company until he retires on April 30, 2024.



Jussi Pesonen

Currently, Reynaudo is Executive Vice President, UPM Communication Papers. Prior to that, he served as Senior Vice President of UPM Raflatac from 2017 to 2021. Earlier in his career, between 1995 and 2017, he held several senior positions at Kimberly-Clark Corporation.

#### INDUSTRY SUPPLIERS

Motion Industries named Mike Esposito to Group Vice President, Motion Automation Intelligence. Most recently, Esposito served as Director of



Mike Esposito

Motion Automation Intelligence's Engineering Assembly Solutions (EAS), having joined Motion as part of the Kaman Distribution Group (including Kaman Automation) acquisition.

#### RECOGINTION

Claudia Roberge, Superintendent, Health

and Safety - Lac-Saint-Jean and Mauricie (Quebec) woodlands operations for Resolute Forest Products, has

Claudia Roberge

been recognized at the 2023 Globee Awards for Women in Business. Roberge earned bronze in the Female Achiever/Committed Professional of the Year category. This international



Heidi Brock, President and CEO of the American Forest and Paper Association (AF&PA), has been named "2024 Association Executive of the



Heidi Brock

Year" by Association TRENDS. Honorees are hand selected by Association TRENDS' selection committee for their leadership skills and contributions to advancing associations.

#### REMEMBRANCE

Bernard Lemaire, chairman and founder of Cascades Inc., died at home in Kingsey Falls, Quebec, on Nov. 8 at age 87. Mr. Lemaire was born in



Bernard Lemaire

Drummondville, Quebec in 1936. In 1960, he joined the family business of waste recovery, Drummond Pulp and Fiber. Four years later the company bought an abandoned pulp and paper mill in Kingsey Falls. After a few years, the revitalized mill began making a profit and company was renamed Cascades.

Bernard's brothers, Laurent and Alain, paid tribute to him. "Bernard was an exceptional man, a largerthan-life character. Visionary, generous and charismatic, he convinced countless people and communities to participate in a huge project, the project of his life: Cascades."

#### JANUARY 12-15, 2024 Student Summit 2024 TAPPI

Hyatt Regency Greenville Greenville, South Carolina, USA tappistudentsummit.org

#### JANUARY 16-18, 2024 2024 Paper Distribution Conference

NPTA (National Paper Trade Association) Ritz Carlton Golf Resort Naples, Florida, USA www.gonpta.com/page/PDC

#### JAN. 31-FEB. 2, 2024

Tissue World Miami Informa Markets Miami Beach Convention Center Miami, Florida, USA www.tissueworld.com

#### FEBRUARY 5-8, 2024

Paper Week Canada 2024 Online (Feb. 5-8). In-person (Feb. 6-7) PAPTAC Montreal, Canada www.paperweek.ca

#### FEBRUARY 20, 2024 Converters Expo South

BNP Media Packaging Group Greenville Convention Center Greenville, South Carolina, USA www.packagingstrategies.com/ converters-expo-south

#### FEBRUARY 21-23, 2024 ASPI 2024 Spring Meeting

Association of the Suppliers to the Paper Industry (ASPI) Hilton Clearwater Beach Resort & Spa Clearwater Beach, Florida, USA www.aspinet.org

#### APRIL 8-10, 2024 AICC 2024 Spring Meeting – 50th Anniversary

The Independent Packaging Association JW Marriott Desert Springs Resort Palm Desert, California, USA www.aiccbox.org Cindy Huber: chuber@aiccbox.org Laura Mihalick: Imihalick@aiccbox.org

#### APRIL 17-19, 2024 PPC Spring Outlook & Strategies Conference

Paperboard Packaging Council (PPC) Omni Frisco Dallas, Texas, USA paperbox.org/event/2024-spring-meeting

#### APRIL 28-MAY 1, 2024

TAPPICon 2024 TAPPI Huntington Convention Center Cleveland Cleveland, Ohio, USA tappicon.org

#### JUNE 2-4, 2024 International Pulp Week

Pulp and Paper Products Council Pan Pacific Vancouver Vancouver, British Columbia, Canada internationalpulpweek.com

#### SEPTEMBER 17-19, 2024

Paper Meets *Live*! 2024 AF&PA and NPTA Opal Sands Resort Clearwater Beach, Florida, USA www.afandpa.org/event



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# sustainability matters



# Spotlighting Paper and Wood Products Industry Sustainability Leadership

By Heidi Brock, President and CEO, AF&PA

hen I tour a paper mill, box plant, or any part of our remarkable value chain, I am always inspired by the people who are committed to sustainability and advancing the circular economy.

These individuals are the ones responsible for true innovation in environmental stewardship. They work in highly skilled, modern manufacturing jobs that have guided the paper and wood products industry's sustainability efforts for many decades.

Today, their work drives innovation through new technologies, partnerships, products and practices that keep our industry at the forefront. This work demonstrates action toward quantifiable sustainability goals.

The American Forest & Paper Association's (AF&PA) *Better Practices, Better Planet 2030* initiative is built around 5 sustainability goals: reducing greenhouse gas emissions, advancing sustainable water management, promoting resilient U.S. forests, eliminating workplace injuries, and ensuring a more circular value chain. In addition, complementing the goals are AF&PA's board approved principles on diversity, equity and inclusion (DE&I), which are also recognized with an annual leadership award.

AF&PA's Sustainability Awards honor those who exemplify these goals in action. This year, we received more award applications than ever before, further underscoring our industry's broad and ever-growing commitment to maintaining its leadership in sustainability.

Of all the outstanding applicants, 8 awards were presented across categories that align with our 2030 sustainability goals:

Georgia-Pacific LLC won our award for leadership in the safety category for their "Save My Life Digital Work Process." This digital platform was built by and for frontline employees. Save My Life uses technology to provide a guided framework to ensure workers have the best information and control measures to prevent serious injuries and fatalities.

The award for leadership in the circular value chain category was presented to **Graphic Packaging International, LLC** for their innovative "Boardio<sup>™</sup> Fiberbased Bottle." Boardio is a paper-based bottle, developed by Graphic Packaging in collaboration with Perfetti Van Melle for their Mentos gum. The innovative solution provides a renewable and recyclable packaging option. This is the first gum category from a major global confectioner to be delivered to market in a paperboard bottle.

This year's leadership in water management award went to **Sappi North America** for its work on the "Cloquet Mill Effluent TSS Reduction Project." Ongoing efforts and innovative manufacturing processes implemented at Sappi's Cloquet Mill are helping improve water quality near Lake Superior. This project focuses on reductions to the mill's total suspended solids (TSS) and biological oxygen demand substances (BOD). Through a phased approach, Sappi has measurably improved wastewater quality and resulted in wastewater treatment cost savings.

Sonoco Products Company received an award for leadership in greenhouse gas (GHG) reductions with its "Renewable Natural Gas Project." Sonoco and GreenGasUSA launched the first industrial waste renewable natural gas project in the southeast U.S. By capturing biogas from its Hartsville, South Carolina mill's wastewater treatment system and displacing the need for fossil natural gas, Sonoco has reduced GHG emissions for the mill by over 90%.



AF&PA's annual awards are designed to recognize exemplary sustainability programs and initiatives in the paper and wood products manufacturing industry. Congratulations to all the winners!

Leadership in the category of resilient U.S. forests went to International Paper for its "Promoting Forest Bird Awareness and Conservation" initiative. In collaboration with the American Bird Conservancy, International Paper is setting an example through partnership and conservation. Their project involves forest landowners, suppliers, conservationists and bird specialists to enhance wildlife habitats in the landscapes from which International Paper sources fiber.

Seaman Paper Co. of Massachusetts won the small company category in the award for innovation in sustainability with its "Vela Bags for Transport Packaging." Hundreds of leading fashion brands are now using Vela bags to replace single use plastic polybags and meet their corporate sustainability goals. Vela bags are made with paper and sourced from certified forests. The paper bags are transparent, weather resistant, durable and curbside recyclable.

Ahlstrom took home the innovation in sustainability award in the large company category for its PawPrint® Sustainable Pet Food Packaging. With this innovation, Ahlstrom is providing pet food brands and pet owners with a sustainable packaging option, reducing landfill waste. PawPrint is made entirely of paper and fully recyclable.

The Procter & Gamble Company won AF&PA's second-ever sustainability award for diversity, equity, and inclusion (DE&I) with its "P&G Paper Equity and Inclusion" project. Procter & Gamble's efforts to advance DE&I focuses on employees, suppliers and customers. P&G has made measurable progress within these areas by increasing diversity in leadership roles, expanding diversity of suppliers, and closing gaps with multicultural audiences through reach, relevancy, resonance and representation.

The sustainability success our industry contributes happens because of leadership and team collaboration as well as a commitment to science and data-driven results. It happens because of the deep commitment that comes from each and every one of us creatively searching for ways to advance the circular economy.

Congratulations to all the winners! We encourage AF&PA members to apply next year, and we look forward to your continued industry partnership.



UPM's 2.1 million tonnes per year eucalyptus pulp mill started up in April 2023 and the mill is moving towards reaching nominal capacity by the end of the year.

By Sami Anteroinen for UPM Pulp

#### Editor's note: This article was originally published online by UPM.

he Paso de los Toros pulp mill is up and running in Uruguay – eventually boosting UPM's current pulp capacity by more than 50%. General Manager Marko Sundqvist reports that the first months of the mill in action have proceeded according to plan.

"We are moving towards reaching nominal capacity by the end of the year and then likely even pushing beyond it," says Sundqvist. The first pulp deliveries to customers were delivered in May.

The UPM Paso de los Toros pulp mill has an annual production capacity of 2.1 million tonnes of eucalyptus pulp. The mill represents the latest and best available technology, featuring best-of-class energy efficiency with minimal environmental impacts and optimized maintenance.

The total USD 3.47 billion project – covering the mill and Montevideo port terminal as well as investments in the local infrastructure – marks the largest investment in UPM's history. Sundqvist acknowledges that running the vast undertaking has required extremely diligent planning and vigorous execution.

## upm-pulp

"The final push took place in mid-April as we began starting up various production departments," says Sundqvist, a UPM veteran whose first stint in Uruguay was way back in 2006.

#### Eye on Quality

During an intense six-week troubleshooting period, Sundqvist and his team made the final adjustments for the big kick off.

"We got off to a good start and have been able to maintain the quality of the product from the beginning," he says, adding that the pulp produced at the mill stands toe-to-toe with Fray Bentos, the other local UPM pulp mill, with regards to quality.

Fray Bentos, of course, is a key reason behind the smooth sailing of the new mill – the expertise gained from launching and running Fray Bentos has proved invaluable at Paso de los Toros.

"We have people working here that had their start as UPM employees 17 years ago with the Fray Bentos project."

#### **Big Picture**

Taken together, UPM's total value chain in Uruguay – eucalyptus plantation



"We got off to a good start and have been able to maintain the quality of the product from the beginning." —Marko Sundqvist, General Manager.

operations, the Fray Bentos and Paso de los Toros pulp mills and related logistics – combined with its contractors creates approximately 7,000 direct and 10,000 induced jobs in the country.

"Looking at Paso de los Toros, there are about 1,000 people coming in through the gates every day, but a big share of that number is logistics. The core production figure is closer to 450 people," says Sundqvist.



"Looking at Paso de los Toros, there are about 1,000 people coming in through the gates every day, but a big share of that number is logistics. The core production figure is closer to 450 people," Sundqvist explains.

#### **Going Digital**

Paso de los Toros also has great digital developments – for example the pulp mill encompasses about 3,000 sensors to provide data for predictive maintenance alone.

"We utilize predictive maintenance to make sure that we stay a couple of steps ahead of the problems," Sundqvist says.

"From the viewpoint of perfecting our processes, our digital tools have really shown their usefulness," he continues, adding that the digital team at the mill is top-notch. "We have a great group of troubleshooters taking preemptive measures."

In addition, honing processes makes for a safer working environment. Sundqvist says that the level of safety has been "really excellent" at the mill so far. "And that goes for both our own people as well as the contractors."

#### Long Time Coming

For Uruguay and the country's economy – a 2% increase in GDP is estimated – the launch of the ultra-modern plant is a big deal.

For a long time now the Uruguayan forest industry and UPM have been

## upm-pulp



able to advance hand-in-hand, largely thanks to the national Forestry Law which was enacted in 1987. The aim of the law was to diversify the country's industrial portfolio, ensuring sustainable land use and protection for its natural forests. Almost four decades later, it is easy to see that the legislation succeeded in ushering in a new, sustainable period for the forest and pulp industry.

UPM was integrated into this transition almost from the beginning, planting its first eucalyptus seedlings in 1990. The country's first pulp mill in Fray Bentos was eventually launched in 2007. Still hailed today as one of the best pulp production units in the world, Fray Bentos paved the way for a twin project, Paso de los Toros. UPM made its decision to invest in the Paso de los Toros pulp mill in 2019.

#### Get it 100% Right

Along the way the new pulp mill has gone through a comprehensive and thorough permitting process.

"Uruguayan environmental authorities monitored the construction of the mill on site throughout the project. The environment was a key priority during the whole construction period, and we are committed to maintaining that focus now in the production phase," Sundqvist says.

The operating authorization process included several inspections by the authorities, as well as third party audits by industry experts. Furthermore, UPM has its own extensive environmental monitoring program in place covering water, flora and fauna, air, soil, noise and socio-economic aspects. According to Sundqvist, when it comes to environmental concerns you can never be truly successful unless you also communicate properly – every step of the way.

"We've made an extra effort to let the local community know what we're doing and why with regards to the environment and other aspects as well."

#### Pulp Pipeline to the Coast

To service the landlocked Paso de los Toros, a new pulp terminal in Montevideo started operations in October 2022. The terminal is used for receiving, handling and storing pulp and chemicals needed in pulp production. The highly specialized, fit-for-purpose terminal is open 24/7 every day of the year and it can handle over 2 million tonnes of pulp annually.



But then there is the issue of getting the pulp from the inland mill to the port. For this logistical challenge, "Plan A" consisted of rebuilding the 273-kilometre rail connection leading from Paso de los Toros to the nation's capital. However, as the state is still putting the finishing touches on the improved railroad line, the pulp mill has been using trucks for transportation. Then "Plan B" has worked out well too: "The truck traffic has been running smoothly, largely thanks to the solid road infrastructure around then mill."

#### Rail Transport Kicks Off in 2024

Along with pulp heading to the port, trucks are also en route to the mill with raw materials such as caustic acid, sulphuric acid and heavy fuel oil. UPM has a fleet of 170 pulp trailers and chemical tankers taking care of the logistics carousel.

Still, the trucks are only a short-term solution and UPM is eager to start putting pulp on the rails. That day is not far off. "Test runs on the rail connection will start in the beginning of 2024, with actual operations to commence after the tests. The rail operations will then be ramped gradually," says Sundqvist.

#### World Class Achievement

Marko Sundqvist is – appropriately so – very proud of the milestone achievement: Paso de los Toros pulp production puts UPM among the leading pulp suppliers in the whole world. The company now boasts a balanced asset base and wood supply in two hemispheres, with two pulp mills in Uruguay and three in Finland.

"This is a great achievement for the entire organization. Our pulp mill is a cost-efficient unit that brings much needed capacity, and it's a clear forerunner in global, sustainable pulp production," says Sundqvist, a pulp engineer who thrives on problem-solving.

According to him, the massive

undertaking comes down to great planning and hard work, while keeping in mind that nobody does it all by themselves.

"It's been such a big project that we needed everybody to commit to the common cause and work every day towards that goal," he says, adding that the team-driven approach was the "secret sauce" of the entire operation.

#### **Trust-based Culture**

Likewise, when asked about the best part of his job, Sundqvist replies that his motivation stems from working with people.

"Along the way, you learn a lot about others as well as yourself."

At the mill, Sundqvist wants to foster a trust-based culture where everybody is encouraged to speak their mind.

"When there is trust, you feel comfortable in expressing your opinions, no matter what. That's a solid starting point for great things."

# digitalization in pulp and paper

# Digitalization in Pulp and Paper Mills: Small Steps Can Give Big Benefits

Implementing digitalization in pulp and paper is not an all-or-nothing choice. Increased digitalization can be done in smaller, systematic steps which by themselves give valuable incrementalbenefits. The challenge is knowing where, when and how to target areas for digitalization that give the fastest payback.

By Lu Athnos, Regional Sales Manager, ABB Pulp & Paper o keep productivity and profit potential maximized, pulp and paper mills need to achieve high asset uptime. Digitalization, meaning the implementation of advanced data-based technology (such as process control and data analysis), today offers pulp and paper makers new ways to use data to operate and maintain assets at the highest levels possible.

Thus, it is no surprise that many progressive mills are investing in digitalization, especially with regard to the operating environment. If they don't invest, they will miss opportunities to increase productivity, competitiveness and revenues.

The constant challenge in this capital-intensive industry is that capital to invest is always less than mill managers would like. To address this reality, carefully targeted investments can be made with smaller sums on digitalization projects that still achieve meaningful benefits. A digitalization journey can start with small steps, and does not require, for instance, a complete replacement of existing operational technology such as control systems, which would be a costly undertaking. In fact, many digitalization investments can be made with operating budgets in a "digitalization-asa-service" model, in the form of a recurring service contract.

# digitalization in pulp and paper

#### The "Small Steps" Approach to Digitalization

Exactly which areas to invest in depends on where your mill is in its digitalization journey, and where you can achieve the highest return for the lowest investment. Every mill is different, and each has its own priorities. However, there are some critical steps, listed below, that are common to all mills looking to take advantage of the benefits of digitalization.

1. Execute regular upgrades and incremental enhancements.

Continuous, ongoing updates and improvements — small, systematic steps — will reduce the complexity, cost and risk of an investment while allowing papermakers to test success and financial return in smaller increments.

To achieve benefits, mills should commit to regular operational technology updates. For instance, if digitalization investments can help you measure product quality even better, consumption of inputs such as fiber, chemicals and energy can be optimized for the products produced, reducing costs and improving profit potential. Incremental quality improvements will also reduce broke and customer rejects.



Digitalization improvements are not limited to any single mill process. From pulp lines to wet end to roll handling, many digitalization opportunities exist.

It is important to note that digitalization improvements are not limited to any single mill process. From pulp lines to wet end to roll handling, many digitalization opportunities exist. Below are some examples of where digitalization delivered notable benefits:

#### Example A

In Sweden, Holmen Paper Braviken illustrates how a digitalization investment helped reduce downtime and improve runnability. Prior to the investment, operational disruptions were negatively impacting availability of the



Reliability-Centered Maintenance (RCM) applies the right approach for specific assets by analyzing the criticality of the assets, identifying and prioritizing failure modes, and then implementing a maintenance strategy accordingly.

mill's RM3 winder, which produces jumbo rolls of printing paper weighing up to 50 tons. To increase winder uptime, the mill decided to replace the previous winder control system with the ABB Ability<sup>™</sup> System 800xA automation and electrical system. The delivery included ABB's Winder Performance Optimization, which monitors Key Performance Indicators, identifies improvement opportunities and enables dynamic speed adjustment to meet capacity for each roll set. This digital solution resulted in higher runnability, reduced downtime, easier troubleshooting, and increased productivity on the winder.

#### Example B

In Asia, a paper mill operating 13 machines wanted to maintain high productivity, predict service costs and continuously improve process performance. It turned to ABB's remote monitoring and predictive analysis technology. This technology helped the mill to gather a tremendous amount of data to analyze and address production, quality and cost issues. Improvement areas identified included reducing the time needed to verify that automatic control is working properly

# digitalization in pulp and paper\_



The increasing sophistication and capabilities of digitalization technologies mean that enormous quantities of data have become available for analysis and utilization.

(bump tests), as well as the time needed to adjust controls for highest performance (loop tuning). The data analysis helped the mill to reduce bump test time by 70% and overall loop tuning effort by 75%. This resulted in increased production, lower chemical costs, accelerated grade changes, fewer sheet breaks, reduced machine-direction ash variability, and less unplanned downtime.

2. Regular maintenance and upgrades of automation pays dividends. Buying an expensive new car and not maintaining it properly will inevitably lead to costly repairs. So it is with a mill's automation. Regular maintenance is necessary or benefits will diminish. In fact, without proper maintenance of automation assets, a mill may induce problems that they never should have.

Unfortunately, many mills run to failure or adopt an "if-it-isn't-brokendon't-fix-it" mentality. This is unsustainable. It is not a matter of "if," but "when" assets will need to be adjusted to prevent poor performance that affects mill production. If maintenance and upgrades are ignored for too long, the asset may fail or become irreparable, and much mill production may be lost.

This was particularly relevant during the COVID pandemic, a challenging time for mill managers who were focused on surviving rather than thriving, keeping mills running under difficult conditions. Under such pressure, certain asset maintenance and upgrades were de-prioritized.

Now, post-pandemic, mills must return to regular physical inspection and basic, daily maintenance that is critical to asset health. Proactive approaches, such as Reliability-Centered Maintenance (RCM), apply a range of strategies appropriate to specific assets in order to ensure efficient mill operation. RCM applies the right approach for specific assets by analyzing the criticality of the assets, identifying and prioritizing failure modes, and then implementing a maintenance strategy accordingly. A good RCM approach includes welldesigned planning and scheduling. asset condition monitoring, predictive and preventive maintenance, and even "run-to-fail" approaches for low-cost, non-critical assets. RCM improves asset operational efficiency, reduces unplanned maintenance hours and costs, and avoids unplanned downtime.

**3.** Invest in data management technologies. The increasing sophistication and capabilities of digitalization technologies mean that enormous quantities of data have become available for analysis and utilization by mill operators, engineers and technicians. But how do you avoid drowning in a flood of data? Collecting data and using it wisely are completely different. Effective data management requires having strategic, reliable methods to access, integrate, cleanse, govern, store and model data, to prepare it for analytics and actions that add value. In addition, data is only effective if it can be validated. A mill must know from the outset what it wants from its digitalization investments and how to ensure the veracity of the data it receives and uses.

ABB offers data analysis and action services that can monitor and set thresholds for performance data variability. If a monitored asset or operation exceeds a threshold, the ABB system triggers an alarm and offers recommended actions that operators orengineers can take to return to specified operating parameters, thus avoiding asset failure or process interruption. If additional support is needed to troubleshoot, these data monitoring tools are remotely enabled so that experts not at the asset or process location (either mill or OEM experts) can immediately apply their diagnostic expertise. This remote-enabled ability became absolutely vital for sustained mill performance during the pandemic travel restrictions.

Measure, analyze, act and automate: this is how digitalization technologies help papermakers optimize operations.

4. Generational challenges can be addressed with digitalization. With the vast amount of data now being generated comes the need to train operators, engineers and technicians to be able to analyze and utilize it well. Humans will not be replaced by artificial intelligence (AI), but they may be replaced by other humans who know how to use AI. This principle applies to paper mills just as much as to any other industry.



If we are to ensure that the paper industry is an attractive sector in which to build a career, we must balance the established knowledge we already have with the abilities the new generation brings.

At the same time, the phenomenon known as the "silver tsunami," meaning the retirement of experienced operators and engineers, is real. Much papermaking knowledge has been lost in recent years and will continue to be lost through the retirement of highly experienced baby boomers. The generational knowledge gap must be addressed, and digitalization can help.

This impending issue can be mitigated by the application of digitalization elements that the younger generation of workers is accustomed to — as "digital natives." That includes things like designing "gamification" elements into automation systems. Many of the younger operators, engineers and technicians entering the workforce tend to be more highly educated and familiar with digitalization technologies, and less so in other disciplines important to papermaking, such as chemistry and mechanics.

We must effectively use digitalization to bridge these knowledge gaps so that mills and the workers in them can still achieve their highest potential. The younger generation is agile and attracted to digitalization technologies, and in many respects are able to leverage these tools faster than the retiring generation of workers.

Success lies in knowing both papermaking and the power of digitalization, so it is critical for mills to continue to bridge the generation gap and increase their understanding of the new digital technologies. The pulp and paper industry is entering a new era. We must shift our recognition of what constitutes valuable skills and adopt a digitalization-first approach that will be essential for success in competing for skilled workers in today's marketplace.

We have the opportunity to combine the best of both worlds, embracing the new, technologically savvy generation of operators, engineers and technicians, while maximizing and augmenting the skills of experienced workers. If we are to ensure that the paper industry is an attractive sector in which to build a career, we must balance the established knowledge we already have with the abilities the new generation brings.

#### **Ensuring a Return on Your Investment**

The benefits of investing in and maintaining digitalization technologies go far beyond getting a few more tons out the door. As examples cited here have shown, digitalization can improve mill productivity, increase asset availability, expedite production processes, ensure high product quality, and reduce costs. Moreover, digitalization can provide a safer work environment, and even a more engaging and satisfying workplace with the right kind of targeted investments.

ABB believes that the future of the pulp and paper industry is sustainable — both environmentally and commercially. But to succeed, mills must make digitalization investments that maximize data utilization and talent application. While the industry increasingly embraces digitalization, knowing how best to invest is a key to success.



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# Sustainable Packaging Fuels Growth and Innovation in Specialty Papers

emand for more greener packaging is aligning with innovation in industrial applications to future drive sales of specialty papers, according to the latest Smithers research.

Data from its new study – *The Future* of Specialty Papers to 2028 – show production of these engineered premium paper grades will reach 26.52 million tons in 2023, up from 24.23 million tons in 2018.

Despite challenging economic conditions in several core markets, an overall positive growth trajectory is forecast by Smithers expert data modelling. Consumption of specialty papers is forecast to increase at a +2.1% compound annual growth rate (CAGR) across 2023-2028, adding an extra 2.97 million tons of demand, globally, over the five-year period.

Specialty papers are manufactured to have specific properties required by the end user and/or are converted for a specific use by an operation such as coating, lamination, or addition of an adhesive. These papers play a significant role in packaging (e.g., in contact with food), specialty printing (e.g., thermal paper for printing of receipts), and industrial use (e.g., battery separator paper).

Often, specialty papers are produced in small volumes for niche markets and, due to these small volumes, are manufactured on narrow paper machines that have the flexibility to make frequent grade changes, but this is not always the case.

The specialty paper market remains febrile, recent changes in paper sales patterns, in particular declining demand for office and printing grades, has seen several graphic paper assets retooled to



Specialty papers play a significant role in packaging (e.g., in contact with food), specialty printing (e.g., thermal paper for printing of receipts), and industrial use (e.g., battery separator paper).

make specialty grades. Modern papermaking innovations allow these to produce specialty grades on larger more efficient paper machines, threatening the margins of smaller established specialist paper converters.

To accurately map the shifts in this diverse sector, the Smithers market analysis examines and quantifies demand across 43 distinct specialty paper segments.

The growth outlook is especially positive in the packaging segment. Single-use plastic legislation is combining with policies of brands owners and food-service business to introduce more sustainable, fiber-based products. This is leading to increased sales of flexible packaging and C1S grades, especially those with functional barrier coatings. Luxury brands are equally looking to adopt a greener profile in packaging, but without abandoning premium appearance or textures. This is stimulating sales of more decorative packaging papers and those optimized to carry high-quality printed graphics and decorative effects.

These factors will see packaging and CS1 grades account for nearly a third of the increased consumption Smithers forecasts for 2023-2028.

Smithers analysis detects similar

increases for specialty labelstocks and paper release liners. With consumption increasing from 5.92 million tons to 6.54 million tons across 2023-2028. There are also positive signs of a recovery in demand for specialty printing papers, although this will largely be confined to thermal print compatible grades.

For many of the technical applications examined by Smithers, consumption of specialty papers will be determined by the broader economic outlook. With innovation and installations of new power generation, transport, and storage equipment bolstering demand for electrical insulation, cabling, and battery papers.

As markets complete their recovery from Covid-19 disruption, the relatively small industrial filtration segment is recovering strongly, with a +3.8% CAGR forecast to 2028. A post-pandemic recovery of vehicle sales is also fostering a revival in interest in automotive filtration papers.

Several segments are declining, however. Noticeably demand for currency and cheque papers will continue to be constrained by the increased popularity of electrical payments and bank transfers.

*The Future of Specialty Papers to 2028* is available from Smithers. For further information, visit: www.smithers.com. ■

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