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How Life Unfolds

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

In July of 2015, the Paper and Packaging Board launched its “Paper & Packaging – How Life Unfolds™” consumer campaign across television, print, digital, outdoor and social media. The campaign is the result of the Paper and Paper-based Packaging Promotion and Research program better known as the Paper Check-off, which the paper industry voted overwhelmingly to create in November of 2013.

Shortly thereafter, the USDA published the final rule for the Paper Check-off (January 2014), which established the program and stated the assessment of 35 cents per short ton for manufacturers and importers annually producing or importing 100,000 short tons or more of printing and writing, containerboard, paperboard and Kraft paper. The assessment began on March 1, 2014. From those four paper sectors, the campaign is collecting about $25 million annually.

The question I’ve asked myself is: How does the industry measure the results?

The Paper and Packaging Board engaged economist Harry Kaiser of Cornell University to discuss the importance of the checkoff program as an investment. In a series of informative videos (www.paperandpackaging.org), Kaiser says check-off programs are extremely effective marketing tools and the use of econometric models allow us to see how each demand factor, on its own, including advertising, affects the ups and downs of product demand.

“Typically, a so-called benefit cost ratio, or BCR, is computed. And as the name implies, a benefit cost ratio is simply the ratio of the benefits of the program to the cost of the program. So obviously, a benefit cost ratio that is greater than 1 indicates that the benefit exceeds the cost.

“Independent economists, like myself, develop what are known as econometric models of all the demand factors that influence the demand for a commodity. Once all significant demand factors are accounted for, we can get an accurate impact of advertising on the demand for a commodity. Models provide a simple, but an accurate way to simulate the impacts of advertising in the real world,” Kaiser explains.

Does he think check-off programs work?

“No only do these programs work, but they work exceptionally well. Almost all past studies indicate these programs have benefits that vastly exceed their cost. It is clear from the bulk of past economic studies, that these promotion programs are very profitable to the industry,” Kaiser states.

The Paper and Packaging Board added that checkoff programs have successfully provided return on investment for a number of industries. For each dollar invested in the program, the pork industry estimates a rate of return for every dollar invested of $4.79; while the beef industry reports $11.20; the soybean industry $6.75; and the watermelon industry slightly more than $10.

According to the Paper and Packaging Board, a preliminary assessment shows that a $25 million per year Check-off maintained for seven years would only need to lift sales of the four covered categories of paper by approximately one-quarter of one percent relative to baseline to generate a return of investment of 20 percent.

In the past year or so I’ve noticed a positive change in consumers’ perception of paper and the industry. It will be interesting to see how the Paper Check-off program unfolds going forward.
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Clearwater Paper recently announced plans to build a new tissue machine and related converting equipment for producing premium and ultra-premium grades of private label tissue products at a site adjacent to the company’s existing facility in Shelby, North Carolina.

“Clearwater Paper’s customers are requiring more premium and ultra-premium products, which we are addressing with the new capacity. These high growth segments have increased 3.5 times faster than the overall tissue market, and we are committed to growing with our strategic customers and positioning ourselves to add new customers,” said Linda K. Massman, President and CEO of Clearwater Paper.

As a result of extensive analysis of the project, Clearwater will install a 200-inch Valmet NTT tissue machine and related converting equipment. At full production capacity, the new tissue machine is expected to produce approximately 70,000 tons of tissue products annually.

The estimated cost for the project includes approximately $283 million for the tissue machine, converting equipment and buildings, and approximately $57 million for the purchase and expansion of an existing warehouse that will consolidate all southeastern warehousing in Shelby.

Clearwater Paper projects that the construction of the new facility will be completed in early 2019 and fully operational in 2020.

Clearwater Paper intends to start construction during the second quarter of this year. Converting and warehouse operations are expected to be completed during the second half of 2018, and the tissue machine is expected to be completed during the first quarter of 2019.

Sappi Slates $165 Million to Boost Capacity of Somerset Mill

Sappi has announced the approval of a US$165 million capital project to expand Sappi North America’s manufacturing capabilities and flexibility to include a variety of consumer packaging products.

The project involves Paper Machine No. 1 at Sappi’s Somerset Mill in Skowhegan, Maine, that will increase paper production capacity to almost one million tons per year.

Currently, the Somerset mill’s annual production capacity is 795,000 metric tons of publication grade paper (used for magazines, catalogs, advertising brochures, direct mail, etc.) and 525,000 metric tons of pulp.

Mark Gardner, President and CEO of Sappi North America, said, “Somerset’s existing world class infrastructure together with its talented workforce and access to high quality fiber makes the mill an excellent and obvious choice for this investment. Increasing our flexibility and expanding the paper mill’s capability and capacity will ensure that we continue to make superior products at Somerset for years to come.”

The planned project at the Somerset Mill is expected to come online early in 2018.
The Perfect Fit

Introducing The New SINAMICS PERFECT HARMONY GH180 Medium Voltage Drive

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Nippon Paper Industries Co., Ltd. announced the sale of the Port Angeles, Washington paper mill and cogeneration assets, which are owned and operated by Nippon Paper Industries USA to McKinley Paper Company.

McKinley is the US subsidiary of Bio-Pappel, a producer of paper and paper products in Mexico.

Terms of the deal were not disclosed. Nippon Paper Industries noted that it acquired the Port Angeles mill in 1988 in order to produce and sell printing and writing papers including telephone directory paper. Although the operation performed well for many years, it has recently been facing a challenging business environment due to diminishing demand for its products.

The Port Angeles mill was built in 1920 and operated under the name Crown Zellerbach. Daishowa Paper of Japan purchased it in 1988 and later merged to become Nippon Paper Industries USA. The mill is a fully integrated pulp and paper mill with the capacity to produce about 325 tons per day of lightweight printing and specialty papers. The recycled deinked pulp mill was built in the early 1990’s and has the capacity to produce more than 200 tons per day of high quality recycled pulp.

In December of 2014, Nippon Paper curtailed production of the mill’s No. 2 Paper Machine, and according to a recent news story in the Peninsula Daily News, Nippon Paper curtailed paper production on the mill’s remaining paper machine as of January 21, 2017 for market-related conditions. However, the co-generation facility at the site is continuing to run.

Nippon Paper Industries expects the sale to close on March 31, and noted that “McKinley has an intention to sustain Port Angeles mill operation.”

Currently, McKinley Paper Company operates paper collection and recycling centers in New Mexico, Texas, Arizona and Colorado.

Cascades Sonoco, a joint venture of Sonoco Products Company and Cascades Inc., announced the investment of approximately $16 million for the expansion of its existing Birmingham, Alabama facility. This investment in water-based coating technology will provide coated paper and paperboard substrates using its new FlexShield, FluteSHIELD and SurfSHIELD coating technology.

According to Cascades Sonoco, these coatings, recently introduced to the folding carton and corrugated industries, are innovative water-based functional and barrier coatings designed to replace the standard LDPE coating used in take-out container folding carton applications, as well as wax replacement technology for the corrugated industry. They offer solutions that are recyclable, repulpable and compostable.

Installation of the new equipment and expansion of the existing Birmingham facility will begin early this year, and start-up is expected in the second quarter of 2018.

Once at full capacity, the new water-based coating line will be capable of producing 40,000-50,000 tons of sustainable coated materials annually.
The FabriCare™ ECOfficiency concept uses high pressure needle jets to clean the paper-side of the fabric directly on a roll. The needle jet has the highest cleaning capacity but using low cleaning pressure and low water consumption. The rebound of the water jet from the fabric and roll surface carries the released contamination into the cleaning head. The vacuum created directly inside the head transports the debris further to the save all.

- No moving parts on the head = extreme low maintenance
- Roll specific radius to keep the distance cleaning head to fabric as small as possible = high vacuum level = efficient discharge of impurities
- The demand for energy to produce the water jet and the water consumption is very low
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- The application prescribes the quantity and size of the nozzles – variable adaption
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For technical information please contact:
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**Resolute Indefinitely Idles Thorold Newsprint Mill**

Resolute Forest Products on March 10 indefinitely idled its paper mill located in Thorold, Ontario. The facility, which employed over 100 workers, has an annual production capacity of approximately 197,000 metric tons of newsprint on one machine using 100 percent recycled furnish.

Resolute said the difficult decision to proceed with the indefinite idling is driven by the ongoing significant decline in North American newsprint consumption, coupled with the increasing cost of recovered paper. The company had already been taking downtime at the operation since mid-December 2016.

Resolute is collaborating with Stone House Investments Holdings Inc., an independent third party interested in converting Thorold to production of an alternative product.

Resolute added that it recognizes the impact of this decision and believes conversion of the mill would provide a more sustainable future for the operation, its workforce and the surrounding community.

The company remains committed to customer service and delivery of high-quality products, and is working closely with customers to ensure a smooth transition.

---

**Pratt Industries Opens New Corrugated Box Factory in Beloit, WI**

Pratt Industries on March 20 officially opened its newest corrugated box factory — a $60 million investment in Beloit, Wisconsin.

Governor Scott Walker, who was on hand for the ribbon cutting and a tour of the 350,000 sq. foot facility, hailed the company for creating “good paying jobs here and across the United States.”

“We’re thrilled at this commitment,” the Governor told more than 150 customers and employees. “As an international leader in paper and packaging, Pratt Industries had numerous options when it came to establishing operations in the Midwest and their decision to expand here in Wisconsin is another indication that our reforms are working.”

Chairman Anthony Pratt said putting the new factory in Wisconsin was an easy decision.

“It’s due to Gov. Walker’s great leadership that we are located here in this businesslike-friendly, manufacturing area,” he said, noting that under Walker’s leadership unemployment in the state had fallen from 8 percent to under 4 percent.

“And this plant is only a punt kick away from the Chicago area, the world’s biggest box market.”

At capacity, the Beloit factory will employ 140 people and produce 600 tons of 100 percent recycled boxes every day.

The new investment is part of the company’s continued expansion plans into the Midwest and beyond.

“We currently operate 68 factories and employ 7000 people and we want to continue to grow those numbers,” Pratt said. “Just here in the Midwest alone we’ve invested almost $500 million dollars since the beginning of 2015.”

Pratt is America’s 5th largest corrugated packaging company and the world’s largest, privately-held 100% recycled paper and packaging company.
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NORTH AMERICA

Tembec to Invest $136 Million in Quebec Operations

Tembec announced a four-year $136 million capital investment program in its Quebec facilities to improve competitiveness, centered on its specialty cellulose pulp operation at the Temiscaming manufacturing site.

According to Tembec, this investment qualifies the company to benefit from electricity rebates applicable to large industrial power users under the Electricity Discount Program for Consumers Billed at Rate “L”. Tembec will be reimbursed for an amount of up to $55 million, representing 40% of the $136 million investment.

The program, introduced in the Government of Quebec’s 2016-2017 budget, applies to significant investments in the four-year period up to the end of calendar 2020 which increase productivity or improve energy efficiency.

“I want to acknowledge the significant support of the Government of Quebec for investment projects which improve the long-term competitiveness of Tembec’s manufacturing operations in Quebec,” said James Lopez, Tembec’s President and CEO.

The proposed investments will cover a number of upgrades at the Temiscaming site, including the long-planned replacement of 11 existing pulp digesters — a project required for the site to remain competitive in global markets. Work is already underway, with one digester replaced to date.

In addition, portions of the capital investment will go toward reducing greenhouse gas emissions, while the Temiscaming site’s high-yield pulp and coated bleached board manufacturing facilities will also benefit as will the Matane high-yield pulp facility.

Resolute Starts-up New Tissue Machine at Calhoun

Resolute Forest Products announced the successful start-up of its new tissue machine in Calhoun, Tennessee. The first tissue parent roll was produced on February 28, 2017.

The machine will continue its scheduled ramp-up through 2017 and is expected to be producing at maximum capacity toward mid-2018. With its fully operational converting facility, converted tissue products sold from Calhoun are now manufactured entirely from parent rolls produced on-site.

The Calhoun tissue operation, built at Resolute’s pulp and paper mill, has the capacity to manufacture 66,000 short tons (60,000 metric tons) annually of premium private-label tissue, including bath and towel, aimed at the at-home market.

Resolute said, “With its state-of-the-art machine, three converting lines and integration of pulp from the existing Calhoun pulp mill, this will be one of the most efficient and cost-competitive tissue operations in North America once full production is achieved, positioning Resolute as a key player in this growing market segment.”

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EUROPE

Merger of Munksjö and Ahlstrom Gain Approvals from Shareholders and EC

The European Commission in mid-March approved the merger between Ahlstrom Corporation and Munksjö Oyj. Earlier in the year, Munksjö and Ahlstrom each held Extraordinary General Meetings (EGM) in Helsinki, Finland and both sides approved the combination of the companies’ business operations through a statutory absorption merger of Ahlstrom into Munksjö.

The proposed combination would have preliminary combined annual net sales of approximately EUR 2.2 billion and adjusted EBITDA of EUR 249 million. Annual cost synergies are estimated to be about EUR 35 million. The cost synergies are expected to be gradually realized over two years following completion of the combination with a more pronounced impact expected from the fourth quarter of 2017.

The combination will create a company with leading global positions in the main product areas of decor, filtration and release liners. Together, the companies will be able to serve a broad range of end-market segments with complementary product and service offerings e.g., filtration and abrasives to the automotive industry as well as food and beverage packaging and release liners to the food and beverage industry.

The two companies have complementary geographical footprints, as Munksjö has strong market positions in Europe and South America and Ahlstrom has strong market positions in Europe, North America and Asia.

The name of the combined company will be Ahlstrom-Munksjö Oyj, with headquarters located in Helsinki, Finland. The new company will have approximately 6,200 employees as well as production in 14 countries.

The merger is expected to be completed on or about April 1, 2017.

Stora Enso to Shut Down One SC Paper Machine at Kvarnsveden Mill

Stora Enso in mid-February announced reorganization plans for its Kvarnsveden Mill in Sweden that include the permanent closure of paper machine (PM) 8. The planned actions would affect a maximum of 140 employees.

PM8 has an annual capacity of 100,000 tonnes of supercalendered (SC) uncoated magazine paper, and it is planned to be shut down by the end of the second quarter of 2017.

The plan would result in annual cost savings of EUR 12 million, Stora Enso said.

“We plan to reorganize Kvarnsveden Mill to ensure its competitiveness in the structurally declining paper market,” said Kati ter Horst, EVP Paper division. “This plan includes the permanent shutdown of PM8, which, due to its small size and technical age, is unfortunately no longer competitive in the current market conditions.”

The closure of PM8 would not impact Stora Enso’s SC paper offering, the company noted.

In Europe, Stora Enso continues to produce SC paper at Kvarnsveden Mill on PM12, as well as its Maxau Mill in Germany and Langerbrugge Mill in Belgium. The group also serves its SC customers from Dawang Mill in China.

Production at Kvarnsveden Mill would continue on two lines, PM10 for improved newsprint paper and PM12 for SC papers.
SOUTH AMERICA

**Suzano Announces Major 2017 Investment Projects in Brazil**

Suzano Pulp and Paper will invest about R$720 million by year-end in a set of projects intended to diversify its operations in Brazil through higher-value products, boost structural competitiveness, cut costs and enhance environmental initiatives.

The investments will be used to build two tissue lines — one at the Mucuri Unit in Bahia state and the other at the Imperatriz Unit in Maranhão state.

Suzano will also build a lignin production line at the Limeira Unit in São Paulo state.

Suzano noted that a project to debottleneck its Imperatriz Unit will be concluded this year, as will projects to expand and modernize the wastewater treatment plant and the installation of a new crystallizer on Line 2, both at the Mucuri Unit.

“These projects are included in our investment plan for 2017, which is estimated at R$1.83 billion and also includes R$1.11 billion in maintenance initiatives, including in the forestry and industrial operations. The maintenance investments aim to ensure the good operating conditions of our assets, as well as to cultivate and preserve green areas,” the company said.

MEXICO

**SCA to Invest $105 Million in One of its Tissue Operations in Mexico**

SCA said that it will invest about US $105 million in one of its tissue facilities in Mexico to further strengthen competitiveness and enable future growth in that region.

SCA explained that the investment in Mexico will support its high-quality tissue offering under the Regio brand.

“The investment is aligned with the company’s strategy to streamline production and secure capacity for future growth in order to increase value creation in the Tissue business area,” SCA said.

In addition, SCA will also invest about EUR 40 million in facilities in Europe to strengthen its offering of baby diaper products. SCA did not disclose specific facilities in Europe that would be involved in the investment.

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Nine Dragons to Install Two Containerboard Machines in China

Nine Dragons Industries Co., Ltd. announced plans to install two new containerboard machines at its mills in China. The new production lines — PM 39 in Quanzhou and PM 40 in Chongqing — will produce testliner and fluting grades with a basis weight range of 75 - 140 g/m² using 100 percent recycled raw materials.

The two machines and auxiliary equipment will be supplied by Valmet.

Nine Dragons said PM 39 will have a production capacity of about 350,000 tpy, while PM 40 will have the capacity to produce 550,000 tpy.

Nine Dragons expects to start up the machines in the fourth quarter of 2018.

Nine Dragons is largest producer of containerboard in Asia with total design production capacity of 13.7 million tpy. The company produces a wide variety of packaging paper products, including linerboard (kraftliner, testliner and white top linerboard), high performance corrugating medium and coated duplex board, as well as the production and sale of recycled printing and writing paper (including uncoated woodfree paper, copy paper, etc.) and specialty paper.

A&R Carton and Packages Limited Sign Partnership Agreement

A&R Carton AB of Lund, Sweden, and Packages Limited of Lahore, Pakistan, have signed a strategic partnership agreement with the intent to collaborate in the manufacture, procurement, sale and marketing of paper-based packaging in Pakistan and neighboring markets.

“In line with our strategy to expand our footprint outside of Europe, our partnership with Packages Limited will further strengthen our platform and benefit our global customer base,” said Harald Schulz, President and CEO of AR Packaging.

“After having been a founding partner of Packages Limited in 1956, we are very pleased to join forces with such an established company again to collaborate on new target markets,” he said.

Syed Hyder Ali, CEO of Packages Ltd, added, “I am very pleased to announce this partnership agreement with AR Packaging who helped in setting up of Packages Limited in 1957. The partnership with AR Packaging will further strengthen our domestic market position and give us entry to the international markets.”

A&R noted that this agreement does not constitute a joint venture or an equity participation.

Bolzoni Auramo Introduces Paper Roll Handling Program

Paper handling equipment company Bolzoni Auramo announced the development of a special program that turns roll and bale handling into an efficient damage free operation. The program includes information such as selection of the right clamp for dedicated handling; determining the correct clamping force; identifying the most suitable contact pad.

In addition, Bolzoni offers a variety of optional damage-reduction and quality control tools that help reduce the risks for damage to rolls throughout the logistics chain.

Bolzoni Auramo has manufacturing plants in Italy, Germany, Finland, America and China, with a network of direct branches and independent dealers throughout the world. For further information, please visit: www.bolzonigroup.com.
INDUSTRY SUPPLIERS

Siemens Optimizes Converting Machines with New Compensation Functions

Siemens has expanded its Simotion Motion Control solutions for converting machines to include prismatic winding and Learning Error Compensation (LECo). Prismatic winding compensates for path length differences on non-circular winding bodies. The advantages are higher winding quality, machine speed and process reliability.

The new self-learning LECo function compensates for periodic disturbance variables in the process, and quickly restores the process and product quality. Deviations, such as position errors of a process axis triggered by mechanical shock, are already largely compensated for after just one cycle. The new Simotion applications are used, for example, in the processing of corrugated cardboard or material webs.

Winding on non-circular cylindrical, near elliptical bodies creates web length changes between the material support point and the deflector roller. These were previously compensated mechanically or by a variable winding speed. The new Siemens Motion Control solution for prismatic winding calculates cyclically in advance the support points of the material on the deflector roller and winding body, and feeds these into the controller. The machine constructor benefits from higher winding quality, higher machine speed and process reliability.

Asia Symbol Starts-up New Fine Paper Machine from Valmet

Valmet announced that a fine paper production line it supplied to Asia Symbol Paper Company’s paper mill in Xin Hui, Guangdong province in southeast China, successfully started up on January 29 — one month ahead of schedule. The new production line, PM 12, produced high quality, saleable fine paper from the start.

Valmet’s delivery included a complete fine paper making line from stock preparation to reel with an approach flow system, white water systems, air systems, and machine clothing, as well as a winder.

Valmet also supplied a comprehensive automation package comprises Valmet DNA process, machine and drive controls and conditioning monitoring as well as Valmet IQ quality control system and profilers.

PM 12 is a 9.35 meter-wide (wire) machine producing woodfree uncoated paper grades in the basis weight of 80 g/m². The production capacity of the machine is approximately 1,700 tons per day and the design speed is 1,800 m/min.

Asia Symbol is part of RGE (Royal Golden Eagle) Group, a leading producer of pulp and paper. The Group has an annual production capacity of 1.8 million tons of pulp, 1.0 million tons of fine paper and 470,000 tons of paperboard.

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**STEEL CHOCK TEST**

**Location:**
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- **TEST OBJECTIVE**
Determine lbs. of pulling pressure needed to overcome chock resistance.

- **TEST PROCESS**
Winch cable attached to 130 ton loaded hopper car. Brakes not applied.

- **RESULT**
Chocks withstand 25,000+ lbs. of drawbar pull — equal to 32% of a locomotive drawbar pull.

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**Location:**
Texas shortline

- **TRACK**
1.5° downhill slope, 10° curve.

- **LOAD**
6-axle locomotive, engine idling, coupled to 100-ton hopper car. Gross weight 633,300 lbs.

- **RESULT**
All brakes released: no sliding, chock held wheel in place. Engineer had to rev up to 3/8 full power to ride over chock.

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PAPER

- **Koch Industries** has named Jim Hannan executive vice president and CEO – Enterprises, a newly created leadership position. Hannan has served as President and CEO of Koch subsidiary Georgia-Pacific since 2007. Succeeding Hannan as President and CEO of Georgia-Pacific is Christian Fischer, who has been with GP since 1989.

- **International Paper** announced that Thomas J. Plath has been elected as Senior Vice President, Human Resources and Global Citizenship. Plath joined International Paper in 1991, serving most recently as Vice President, Human Resources, Global Businesses. IP also announced the retirement of Thomas G. Kadien, Senior Vice President, Human Resources, Government Relations and Global Citizenship. Kadien joined the company in 1978 and will retire effective June 30, 2017.

- **International Paper** announced that Rampraveen Swaminathan, President - International Paper India and Chairman & Managing Director of International Paper APPM Limited has decided to leave the company to pursue his professional interests. Don Devlin, Vice President, Corporate Audit for International Paper will succeed Swaminathan. Devlin has nearly 20 years of experience with IP, holding various leadership roles. He will be based in Hyderabad, India. Swaminathan will continue in his current responsibilities and support a smooth transition until end of April 2017.

- **Monadnock Paper Mills** announced that Dr. Fuushern Wuu has joined the company as Senior Product Manager in its R&D, Technical Services Department. Dr. Wuu is the author of several patents and has extensive experience with wet-end paper chemistry and specialty coatings.

- **Mondi Group** said that David Hathorn, Group CEO, has informed the Boards of his decision to retire, effective May 11. Peter Oswald, currently an Executive Director and CEO of the Europe & International Division, will succeed Hathorn as Group CEO. Hathorn joined Mondi in 1991 and has served as CEO since 2000.

- **Sappi Europe** has appointed Maik Willig as Mill Director of the company’s Ehingen Mill in southern Germany. Willig joined Sappi in 2012 as Production Manager and became Paper Mill Manager of Ehingen at the beginning of 2015. Willig holds a master’s degree from the University of Munich in Pulp and Paper Engineering.

RECOGNITION

- **The Association of Suppliers for the Paper Industry (ASPI)** announced that Michael Doss, President and Chief Executive Officer of Graphic Packaging Holding Company, has been recognized as the ASPI 2017 Customer Executive of the Year. ASPI also announced that Jack Bray, Vice President, Manufacturing Operations at Domtar, has been selected to receive ASPI’s 2017 Excellence in Leadership Award.

INDUSTRY ASSOCIATIONS

- **The American Forest & Paper Association (AF&PA)** announced the election of Clearwater Paper Corporation President and CEO Linda Massman as the new AF&PA Board Chair.

- **The National Paper Trade Association (NPTA)** announced that Tom Wernoch has been elected as its new Chairman. Wernoch is Director of Sales, Printing and Imaging Papers at Glatfelter.

INDUSTRY SUPPLIERS

- **Buckman** announced that Steven B. Buckman, President and CEO, will retire effective April 28. Mr. Buckman has led the company’s nine global operating companies for more than 16 years. Junai Maharaj, currently Managing Director of Buckman Europe, Middle East and Africa, will become the CEO of Buckman effective April 28. In addition, Kathy Buckman Gibson, Buckman International’s President and COO, will become Chairman of the Board of Directors beginning April 28, 2017. Otto Heissenberger, Jr. will retire as Chairman and plans to continue to serve as a board member.
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U.S. Paper and Wood Products Manufacturers Strive to Build on Industry Sustainability Progress


By Donna Harman, President and CEO, American Forest & Paper Association

U.S. paper and wood products manufacturers have long embraced sustainable business practices to keep our industry competitive, our forests strong and our environment protected. Our member companies proactively engage their supply chain to ensure that renewable resources used to make essential everyday products are readily available to future generations. For that, we say thank you.

Such deep commitment and forethought have returned significant sustainability achievements along the way. And we are proud to showcase those measurable results in our Better Practices, Better Planet 2020 project, launched in 2011 as one of the most extensive sets of sustainability goals for a U.S. manufacturing industry.

Our results show progress toward increasing energy efficiency, improving safety, reducing water use, broadening paper recovery for recycling and expanding sustainable forestry practices. Additionally, member companies have attained laudable greenhouse gas (GHG) emission reductions and set a new GHG reduction goal for the future — a result that deserves a seat in the spotlight.

In our 2016 report, we announced our members’ collective achievement of a GHG emission reduction of 16 percent, surpassing the 15 percent reduction goal ahead of schedule. Instead of stopping while ahead, our members chose to set the bar higher with a new goal of reaching 20 percent reduction by 2020, from the original baseline of 2005.

AF&PA announced the new benchmark on February 2 and will be supporting our manufacturers’ efforts by advocating for policies that allow them to stay productive and competitive while protecting the viability of our natural resources. That’s why we took their sustainability success story on the road during a series of “Advocacy Days” at State Capitols in Maryland, Washington and Oregon. In meetings, briefings and presentation, we illustrated to policy makers that sustainability gains — and GHG emission reductions in particular — can be reached without expensive and complicated regulatory policy.

With the Printing and Graphics
Association MidAtlantic, we met with legislators in Annapolis, Maryland on January 31. In Olympia, Washington, we joined forces with the Northwest Pulp and Paper Association and the Washington Forest Protection Association on February 8 to do the same. And, on March 7, in Salem, Oregon, we collaborated with the Oregon Forest Industries Council and the Northwest Pulp and Paper Association to share our GHG reduction accomplishments to date and goal for the road ahead.

The results we presented displayed a common thread woven across the industry. Efficient production and use of large quantities of carbon-neutral biomass energy, sustainable forest management and procurement practices, wise use of water and paper recycling are among the steps that can make burdensome regulations unnecessary.

We continue to oppose overly burdensome regulations like the Environmental Protection Agency’s Clean Power Plan. In our book, this EPA rule seeks emissions reductions that are beyond the agency’s legal authority and could increase energy costs, decrease the reliability of the electric system and set adverse precedent for potential GHG regulation of our industry.

At the federal level, we also remain committed to reaching an effective legislative solution that recognizes the carbon benefits of biomass energy in forest products manufacturing facilities.

We hope that the regional and state lawmakers who are considering or implementing steps to reduce GHG emissions recognize the success of market-driven and voluntary steps to reduce them. To policy makers on Capitol Hill, we say the same.

Our sustainability story is worth sharing, over and over again, in the hopes of inspiring more manufacturers in our sector and others to follow suit. You can count on us keep telling it.

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.

The forest products industry accounts for approximately 4 percent of the total U.S. manufacturing GDP, manufactures over $200 billion in products annually, and employs approximately 900,000 men and women.
Uncoated Freesheet Market Fights to Regain Balance against Drop in Demand

North American uncoated freesheet demand contracted further in 2016 and it’s expected to shrink further this year. The market was relatively in balance through mid-2016 before weakening and likely requiring additional capacity withdrawals to sustain operating rates. On the bright side, demand for uncoated papers has held up better than other graphic grades.

By Harold M. Cody

North American uncoated freesheet markets haven’t really made much noise in recent months so it’s really a case of whether you view this segment of the industry from a “glass half full or glass half empty” perspective. The market continues to fight falling demand as technology replaces or steadily reduces many common uses for office and printing papers. However, there were also selected bright spots relating to demand in recent months, and while prices slipped and gave back some gains from last year, mills remain profitable.

Nevertheless, uncoated freesheet demand in North America continued to decline last year, falling 4% in 2016 vs. 2015. This follows on the heels of relatively flat demand in 2015 as use stabilized after a decline of over 5% in 2014.

**VARYING DEMAND**

The decrease varied by individual sector/use with more modest declines or even flat demand posted for grades such as envelope and offset compared to a larger contraction for business papers and other grades. It’s not clear why these uses did better, but likely reasons include economic growth and employment gains. Demand in the largest segment, business grades, which includes cut-size paper/copy paper, is estimated to have declined by 4% or more.

Total North American demand is currently about 8 million tons with business papers (cut-size grades) accounting for about 3.8 million tons. Other major segments include: offset, 1.7 million tons; envelope 0.75 million tons; and form bond, 0.5 million tons. The decline in uncoated freesheet demand was better than for grades such as coated and uncoated mechanical papers, while coated freesheet posted a smaller decline.

One key indicator of uncoated freesheet use is U.S. postal mail data which showed some surprisingly good results last year. For fiscal year 2016 (ends September 2016), standard mail volume by weight rose 0.2% compared to 2015, while pieces mailed rose 1.0%. In contrast, first class mail posted declines of 1.3% and 1.9%, respectively, in weight and pieces, compared to 2015. In first quarter 2017 (ending December 2016), standard mail volume was off 3.7% by weight, but the number of pieces rose by 1.3% vs. the prior year. The improvement in standard mail is in contrast to the generally steady decline in all mail volume posted over the last several years.

**IMPORT TARIFFS PARTIALLY EFFECTIVE**

In our last report we discussed the importance of uncoated freesheet trade imports from China and Indonesia, where tariffs were implemented, fell from roughly 750,000 tons in 2015 to under 400,000 tons last year. However, imports from other countries such as Portugal and Brazil rose and partially offset decreases from these areas.
trends and in particular the impact of tariffs imposed on some imported cut size paper. This was a major event, but while the impact has been clear the results have been a bit mixed.

Tariffs have cut import tonnage from some areas and overall. For example, in 2014 and in early 2015 cut size imports rose to almost 25% of demand but they fell back to under 15% due to tariffs. Imports from China and Indonesia, where tariffs were implemented, fell from roughly 750,000 tons in 2015 to under 400,000 tons last year. However, imports from other countries such as Portugal and Brazil rose and partially offset decreases from these areas.

**Pricing a Mixed Bag Despite Capacity Cuts**

In first half 2016, capacity shuts, lower imports due to tariffs and steady demand led to moderate improvement and uncoated freesheet prices rose in the second quarter. However, prices retreated modestly in the September/October period and weakened again in early 2017 as it’s reported that prices slipped about $20/ton on cut-size grades and offset rolls.

A key reason for the price gains was that U.S. capacity fell by an estimated 2% last year vs. little loss in 2015. This was mainly due to Domtar’s $160 million conversion of PM 64 at the Ashdown mill to fluff pulp as they move assets from a declining market to one showing solid growth. The conversion came online in mid-2016 and reduced uncoated free capacity by 364,000 tpy. The project included a new wet end, upgraded the dryer can section, new reel and winder and a new cutter lay boy and bale handling line.

Uncoated freesheet markets, at least from a mill perspective, were given some other good news last year when the merger of Staples and Office Depot failed. According to estimates the two firms buy over 40% of the cut size paper sold in the U.S.

With demand expected to decline further in 2017 it’s expected that additional capacity shuts will be needed otherwise already weak prices will continue to stumble as operating rates struggle to hit the low nineties. Price pressures, while they may be a bit reduced nevertheless continue, owing to imports from Europe and South America, as offshore mills take advantage of the relatively high prices in the US owing to the strong dollar. The key in 2017 and next year will be matching supply to demand. A 4% decline in use equals roughly 320,000 tons of capacity.

Harold Cody is a contributing writer for PaperAge. He can be reached by email at: HaroldCody@paperage.com.
Mohawk announced that Tom O’Connor Jr., Mohawk’s CEO and Ted O’Connor, the company’s Senior Vice President and General Manager of Envelopes and Converting, have been named 2017 Peyton Shaner Award recipients by the Association of Independent Printing Paper Merchants (AIPPM).

The Peyton Shaner award was established to commemorate the founder of AIPPM. The recipients are recognized as someone who has shared Shaner’s passion for the industry.

Tom O’Connor Jr. joined Mohawk in 1986 and was named Chairman and CEO in 2004. As CEO, Tom doubled Mohawk’s business and positioned the organization for the future by leading Mohawk into new areas of growth.

Tom has served as chairman of the National Paper Trade Association and on the boards of the American Forest Products Association, St. Gregory’s School, and the Advisory Board of M&T Bank. He is also a former member of The Capital Region Economic Development Council.

Ted O’Connor has been in the paper business on and off since 1980. From 1980-1982 he worked as a sales rep for the Carter Rice Paper Company. In 1982, Ted joined Mohawk Fine Papers as a specification sales rep for the New York City market and became the District Sales Manager for upstate New York and Canada in 1985. He was promoted to National Sales Manager in 1987.

In 1992, Ted left Mohawk to work in Bond Sales for Lehman Brothers in New York City, and returned to Mohawk in 2008 as National Sales Manager for the Eastern Region. In 2011, he was promoted to Senior VP Sales in the U.S. and Canada as well as Mohawk’s envelope business.

Ted was promoted to his current position as Senior VP and GM, Mohawk Envelope and Converting in 2016.
Metsä Board Introduces Innovative One-Piece Paper Cup, Lidloc

Metsä Board recently introduced a new paperboard cup design concept called ‘Lidloc’ at the Packaging Innovations Exhibition held in Birmingham, United Kingdom.

Metsä Board explained that the Lidloc patented design is based upon an extension to a standard cup structure that folds and locks into an integrated lid. This innovative design completely removes the need for a separate plastic lid and will re-invent how paperboard cups are produced, consumed and recycled.

Metsä Board’s Design & Innovation Director, Cyril Drouet, has worked closely on this project with his design team and recently presented the Lidloc concept to an invited audience at the Packaging Innovations exhibition.

“We have designed this to be a one-piece construction that removes the need for a separate plastic lid. It is easy to fold and assemble with a secure lid-locking design. The integrated lid is spill proof and offers extra branding power as it can be printed as one piece with the rest of the cup. The lid also contains an integrated ‘sip’ mechanism for hot beverages as well as being ideal for cold drinks with a straw,” Drouet explained.

The Lidloc patented design is based upon an extension to a standard cup structure that folds and locks into an integrated lid. This innovative design completely removes the need for a separate plastic lid.
Mark Sutton joined International Paper in 1984 as an engineer at the Pineville, Louisiana containerboard mill. Ten years later he became mill manager at the Thilmany, Wisconsin mill, which at the time was part of International Paper’s industrial papers business.

In 2000, Sutton relocated to Europe to serve as director of European corrugated packaging operations and was promoted to vice president and general manager responsible for all corrugated packaging operations across seven countries in the EMEA region in 2002.

It was in 2005, however, when Sutton relocated to IP’s headquarters in Memphis, Tennessee and took on the role of vice president of corporate strategic planning, where he would become part of a team with then Chairman and CEO, John Faraci, that engineered a “transformation plan” which generated over $10 billion in after-tax proceeds from the sale of non-core businesses over the following two years.

Sutton would see IP go on to acquire Weyerhaeuser’s U.S. packaging business in 2008, and the acquisition of Temple-Inland — a deal valued at about $4.3 billion — in February of 2012. At that time, Temple-Inland was ranked as the third largest containerboard manufacturer in North America (IP being number 1). The two deals put IP in control of about 33% of North American containerboard capacity.

International Paper’s Chairman and Chief Executive, Mark Sutton, has positioned IP to take advantage of its experience and strengths, while keeping a watchful eye on profitability.

By John O’Brien, Managing Editor
Sutton was named CEO of International Paper on November 1, 2014 and became Chairman on January 1, 2015. Prior to becoming CEO, he served as President and Chief Operating Officer with responsibility for leading and running the company’s global businesses.

Sticking with the strategy of serving growing markets in which IP held operational know-how and the advantage of experience, Sutton headed up a deal to acquire Weyerhaeuser’s pulp business for $2.2 billion. The acquisition bolstered IP’s legacy pulp business with the addition of four fluff pulp mills, 1 NBSK pulp mill, and two converting facilities. The business had posted sales of $1.5 billion in 2015.

Also under Sutton’s leadership in 2016, IP converted coated paperboard capacity at its Riegelwood mill in North Carolina to 100 percent fluff and softwood pulp production, adding an additional 400,000 tons of capacity to the company’s system.

And in Europe, IP acquired a newsprint mill in Madrid, Spain and plans to convert the mill’s relatively new paper machine in the second half of 2017 for the production of recycled containerboard with an expected capacity of 380,000 metric tonnes. After completion of the machine conversion project, the mill’s production will support IP’s corrugated packaging business in EMEA.

In light of the aforementioned strategic moves and dedication to his company and the industry, PaperAge has named Mark Sutton as our 30th annual “Executive Papermaker of the Year.”

You joined International Paper in 1984 as an engineer at the Pineville, Louisiana mill and have been with the company ever since. Looking back, was there a point where you decided that IP was the company for you? What intrigued you about the business?

I went to college at LSU and anticipated working in the oil and petro-chemical industry when I graduated. The recession that hit in the mid-80s quickly changed my plans. Forest products was one of the other primary industries in the area. I was offered a job in the maintenance department of International Paper’s Pineville, Louisiana mill and expected to stay a few years, gain some experience and move on. That was more than 30 years ago.

What I came to realize over time is that IP is the right fit for individuals who value leadership, results and responsibility. People with strong character who are looking to be challenged and to make a positive impact will be successful. Our culture, purpose and people, supported by our commitment to safety, diversity and inclusion, people development and improving the communities where we live and work, offer our employees the ability to grow and develop in ways that would be hard, if not impossible to replicate with any other single company.

On Dec. 1, 2016, IP closed the $2.2 billion acquisition of Weyerhaeuser’s pulp business and combined it with IP’s legacy pulp business — now known as Global Cellulose Fibers. How is the integration process going?

We have a strong track record of making good businesses even better through strategic acquisitions. Our newly formed Global Cellulose Fibers business is a game-changer for International Paper. The combined business includes a team of tremendously talented people, great assets and a patent portfolio which positions International Paper to best

The New Bern, North Carolina fluff pulp mill was one of 5 pulp mills and two converting facilities that IP acquired from Weyerhaeuser. The $2.2 billion deal closed on Dec. 1, 2016.
IP received a dividend of $121 million from Ilim Group, IP’s joint venture partner in Russia. The dividend is based on prior year performance, and in 2016, the JV set production records at all three of its mills and realized higher sales volume due to increased demand for its products.

serve the needs of customers in the fluff and specialty pulp markets. While the integration process is in the early stages, we anticipate significant product mix upgrade opportunities over the next several years with the combination of the two businesses and our new Riegelwood capacity fully utilized for fluff pulp and specialties.

Do you see product mix upgrade opportunities for fluff pulp and specialty products and where would those be?

The primary end-use applications for fluff pulp include baby diapers and other absorbent personal care items that support health and wellness around the world. That’s a growing market with lots of opportunity. Cellulose fibers are also being used in specialty applications in the textile industry as an additive fiber that creates premium fabrics with rich color and superior breathability. Other specialty uses include filtration applications and injection-molded plastics where they add additional strength without much weight.

IP’s North American Industrial Packaging mill system has the capacity to produce about 13.3 million tons per year of containerboard, holding 33% of the market. Further capacity growth would most likely be a challenge with regulators. So, from an operational standpoint, what do you focus on to further drive that business?

Our focus is to deploy lean manufacturing processes to make the highest quality, lowest cost product that matches our customer demand. Since 2014, we have invested more than $2.1 billion in capital in our North American Industrial Packaging business including our mills, box plants and supply chain. These investments have improved our quality and system flexibility to help meet growing demand and season surges in our business. The restart of our machine in Valliant, Texas in 2015 and improvements at our Prattville, Alabama, and Springfield, Oregon mills in 2016 are some good examples.

IP’s joint venture with Ilim in Russia performed very well in 2016. What contributed to this?

IP continues to see great opportunity in Russia as we have been successfully operating there since 1998. Our Ilim JV is integral to our success and is well positioned to serve Russia and China (China accounts for about 74% of incremental growth in market pulp demand over the next 12 years).

We decided in the late 90s that the Russian market was going to be vital to our company’s ability to be more competitive and profitable in a rapidly transforming global economic environment; and it proved to be the right decision.

Our Ilim JV had a strong fourth quarter and capped off a great year in 2016. All three mills set production records for both periods. Strong demand, primarily in China, led to higher sales volume at the end of 2016. Volume was up a little over 5% for the full year. Operational EBITDA for the full year was $680 million. We remain very satisfied with the JV structure and partnership.

In June of 2016, IP finalized the sale of its corrugated packaging business in China and Southeast Asia, marking a departure

IP acquired the Holmen newsprint mill in Madrid, Spain in July 2016 and plans to convert the mill’s relatively new paper machine during the second half of 2017 for the production of high performance lightweight recycled containerboard with an expected capacity of 380,000 metric tonnes.
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IP’s papers business in Brazil has a large export component which has continued to produce excellent returns for the company.

from manufacturing in Asia. What factors led to that decision? Will IP continue to serve markets in Asia, and how?

The China and Southeast Asia markets are important to us. After undergoing a thorough review on how best to serve the these markets, we concluded that we could be more effective supplying this region with globally competitive products primarily through our Ilim joint venture in Russia and with fluff pulp and containerboard from the U.S. The Ilim JV is well-positioned for another strong year of performance, and based on last year’s cash flow, IP will be receiving a $100 million dividend from the JV in March.

IP bought a newsprint mill in Madrid, Spain with plans to convert its production to linerboard in the second half of 2017. What are IP’s strategic intent with the mill’s production?

IP acquired the Holmen newsprint mill in Madrid, Spain in July 2016 and our strategic intent continues to center around converting one of the best European newsprint mills to produce about 380,000 metric tons of high performance lightweight recycled containerboard. This acquisition and conversion allows us to enhance our value proposition and offer our customers even more choices for innovative tailored packaging solutions. It will also enable us to take a strong EMEA packaging business and make it even better.

What was it about that mill operation that appealed to you?

We chose the Holmen Paper Madrid mill because of its strong operational performance and state-of-the-art assets. The mill’s production capacity combined with its proximity to our corrugated packaging facilities in the EMEA region made this a wise investment that supports our strategic vision. IP will continue to source a range of containerboard grades from the market.

IP has a number of paper and packaging operations in Latin America. Is the region of further interest?

We have a tremendous business in Brazil, but like other companies we have experienced the same headwinds related to Brazil’s economic situation. It does appear that the government is taking actions that should ultimately stabilize the situation and return Brazil to a healthy state. Our papers business in the region has a large export component which has continued to produce excellent returns for the company. Our packaging business is dependent on the health of the Brazilian economy and has been more susceptible to the recent headwinds.

We believe in our business there with our strategy to create advantaged positions in advantaged markets. Our operations in Brazil are well positioned with outstanding talent and low-cost assets that can generate strong free cash flow and returns that can exceed our cost-of-capital.

You have stressed that International Paper is committed to sustainability within every aspect of its business. What are you hearing from your customers when it comes to sustainability and how do you convey IP’s efforts to them?

Our business model is based on transforming renewable natural resources into products that people depend on every day. These products protect goods and enable worldwide commerce; they enable communication and education; they provide convenience and portability for consumers and they are used to create products that enhance the health and well-being of people around the world. The vast majority of these products are recycled at the end of use and put back into the manufacturing process to create new products.

A carbon neutral biomass boiler at IP’s pulp and paper mill in Mogi Guacu, Brazil has reduced energy costs while driving down use of fossil fuels.

We also use the residuals from our processes to generate 70% of our energy needs which decreases our reliance on fossil fuels and reduces our pull on the power grid. When you put that all together, it’s one incredible sustainability story. Providing customers with innovative, sustainable and recyclable products enables them to achieve their objectives and to adapt to the changing consumer demands around the world.
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An Old School Approach to Reducing Machine Failure

Lubrication-related equipment failure is a problem that plagues industrial facilities of all sizes. It turns out, however, the newest weapon in the fight against industrial machine failure isn’t new at all, and it’s generating substantial savings along the way.

By Bill Correll, Generation Systems, Inc.

Lubrication-related equipment failure is a problem that plagues industrial facilities of all sizes and stripes. By some estimates, it causes as much as $1 trillion a year in reactive maintenance, unplanned downtime and lost productivity across the U.S. As we’ll see in a moment, failure rates associated with lubrication haven’t budged in the past two decades. That’s especially troubling for industrial operators who have sunk billions of dollars into sophisticated maintenance management systems and predictive maintenance tools designed specifically to reduce downtime. And yet the problem is not getting better. How can that be?

A small but growing number of reliability engineers think they’ve found an answer. They’re rediscovering the value of returning to basics. They’re applying innovative technology to old school preventive maintenance. Yes, you heard that right. It turns out the newest weapon in the fight against industrial machine failure isn’t new at all. But it works. And it’s generating substantial savings along the way.

PREDICTIVE MAINTENANCE: A REACTIVE APPROACH TO PLANT MAINTENANCE

Although today’s maintenance tools are more advanced than ever, they reflect a reactive mindset. Consider where advertising dollars have gone. For the past two decades, the focus in maintenance magazines, websites and tradeshows has increasingly shifted from maintenance management solutions such as computerized maintenance management systems (CMMS) to predictive maintenance and conditioned monitoring products.

Make no mistake, these tools — vibration analysis, infrared and other technologies — play a vital role in diagnosing problems early to reduce the impact of downtime. Yet, much like Seattle’s Medic One, they are truly useful only after signs of failure have begun to appear. They are fundamentally reactive in nature.

With so much emphasis on efforts to detect failure, it begs the question: What about preventing machine failure from occurring to begin with?

ADDRESSING MACHINE FAILURE AT THE SOURCE: LUBRICATION

To eliminate bearing failure, one must first identify the cause. On that score,
most experts are already in agreement and have been for decades: poor or inadequate lubrication is the primary cause of industrial equipment wear and failure. In 1995, an assessment provided during a TAPPI engineering conference placed the figure at 54%. In 2014, Ken Bannister’s “State of the Lubrication Nation” revised the percentage up to 70%. He further calculated U.S. losses from lubrication-related issues to be an eye-opening $1 trillion annually. Estimates vary. But one thing is clear; lube-related machine failure is far too high.

There are many reasons why lubrication problems are so persistent. A look at a few key stats tells part of the story:

- Only 12% of those assigned lubrication duties are certified to do so
- 79% of companies don’t have a professionally audited lubrication program
- 61% of companies don’t track lubrication-related failures
- 57% don’t perform system checks on automated lubricant-delivery systems
- 91% don’t have lubricant requirement sheets for bearings

**THE PROBLEM AND THE ANSWER**

Increasingly, reliability engineers are beginning to recognize the role that inadequate lubrication plays in unplanned downtime and equipment failure. In an online survey by machinerylubrication.com, over 80% of reliability engineers indicated they experience lubricant starvation. In a live poll during a recent online maintenance conference, over 85% of the respondents made a correlation between lubrication issues and the level of reactive maintenance.

Lubrication shortcomings result in repeated equipment failure, production losses (potentially $10,000/hour or more), subpar technician productivity, excessive energy usage and lube consumption, negative environmental impacts and a state of perpetual catching up.

**COMING TO TERMS WITH LUBRICATION’S COMPLEXITY**

While a growing number reliability engineers have a solid grasp of the importance of proper lubrication in plant efficiency, awareness at the management level is often lacking. In many industrial organizations, management believes that lubrication is just like any other maintenance task. As reliability engineers and lube techs have known for years, however, lubrication is a highly specialized discipline. It’s so complex, in fact, that the International Council for Machinery Lubrication (ICML) offers numerous certifications in it.

To get an idea of the many intricacies lubrication entails, consider what you need to factor in just to determine lube requirements. The effort involves five core data elements: components, lubricants, task types, procedures and frequencies. It could well take seven different combinations of these elements to define lube requirements for a single conveyor — and anywhere from 100-200 combinations across a plant.

In addition, it’s not unusual for industrial plants to have many thousands of lube points. Depending on the number, they may require between 70,000 to a 500,000 individual lubrication tasks each year, with each task having to incorporate specific combinations of data elements.

The logistical implications are overwhelming. And a key reason lubrication problems remain so pervasive is that most industrial outfits attempt to manage lubrication using CMMS or enterprise asset management (EAM) solutions. Not only are these tools not designed to handle lubrication’s formidable complexity, they often involve the use of cumbersome PM work orders that are difficult and time-consuming to create.

**THE SERIOUS FLAW IN LUBRICATION WORK ORDERS**

More importantly, these PM-based solutions are not capable of verifying that individual lube tasks are actually performed. Here’s why. Unlike corrective work orders that can capture task completion more granularly, most lubrication work orders generated by CMMS and EAM systems are set up on an all or nothing basis. They can’t be closed until 100% of the tasks are complete.

A typical lube work order may contain more than a hundred individual tasks. If a lube tech is not able to complete a handful of them for whatever reason, there is no easy way to note that in the work order. Instead they have only two choices: (1) They can choose to leave the entire work order open, even though most of the tasks have been completed, or (2) they can check off everything as complete and hope the few missed tasks get covered next time. You can guess which option the vast majority of lube techs and maintenance managers prefer.

This is how lube tasks routinely fall through the cracks. It happens far more often than most maintenance organizations realize. How do we know? By the
results companies have experienced using software designed to track lube task completion and improve the efficiency of lube sequencing routes.

Facilities that rely on this software have achieved task completion rates of 80% to 95%. Keep in mind that to get such results, these organizations made a concerted effort to manage lubrication properly, and yet they still failed to complete 5% to 20% of lube tasks. It’s anyone’s guess how much higher that rate might be with facilities that are currently not tracking task completion. One thing that is certain, however, is that lube-related bearing failure continues unabated across industries.

A NEW SHIFT TOWARD PREVENTIVE MEASURES

Against this backdrop of futility, a back-to-basics movement is beginning to take hold. Think of it as old school with a new technology twist. It’s originating on plant floors, not in corner offices. It’s driven by reliability engineers and lube techs who recognize that diagnostic systems and CMMS tools alone are not enough to make a real difference in reactive maintenance and lube-related failure.

Not surprisingly, you’ll find the first hints of this trend, once again, in advertising. You’re seeing more ads and trade-show displays these days for desiccate breathers, sight glasses, contamination control, ultra-sonic grease guns, and oil room sanitation systems. While these are technically advanced products, they are proactive at their core, and they indicate a rising demand for preventive measures.

ESTABLISHING A LUBRICATION BEST PRACTICES PROGRAM

Proper lubrication is 100% proactive and preventive. Organizations that have instituted a lubrication best practices program significantly reduce reactive maintenance and machine failure. To establish such a program in your facilities, here are some steps to follow:

• Add lubrication specific training to increase your staff’s knowledge and establish best practices
• Acquire lubrication-specific tools your staff may be lacking
• Improve lubrication logistics and control

CASE STUDY: PROPER LUBRICATION PRACTICES YIELD $680,000 IN SAVINGS

The increased accuracy, effectiveness and efficiency of a lubrication best practices program improve uptime, reduce costs and lift the bottom line. Here’s a case of a plant that took the needed steps and pocketed $680,000 in savings.

First, they studied lubrication best practices and designed a plan, getting buy-in from management down to the lube tech. They attained key certifications in lubrication maintenance — and not just for their lube techs, but for supervisors and managers, as well.

They did a lubrication survey in which they identified every lube point in the plant, which gave them a critical baseline on which to build their program. Then they organized their lube room, filtering lubricants as they were received from suppliers and again before applying it to their equipment.

Next they invested in color-coded containers to eliminate mistakes. They acquired sealed oil containers to keep the lubricants clean. They added clear grease guns, sight glasses, breathers, and filtration and contamination control.

Finally, they added lubrication software that helped them establish efficient routes, schedules, responsibilities and accountability. This plant had only 1,350 lube points, and yet it managed to save $200,000 the first year and over $160,000 per year during the next three years for a total of $680,000.

LOOKING AHEAD

Advanced CMMS, predictive maintenance and conditioned monitoring solutions are essential to modern plant health and efficiency, but when it comes to making significant inroads in eliminating equipment downtime and failure, they leave much to be desired. Moreover, CMMS tools are not designed — and lack the control needed — for the myriad complexities of effective lubrication management.

The rise of advanced preventive maintenance tools and best practices is a response to a challenging problem decades in the making. Sometimes the best way forward is to reach back.

Today’s proactive, preventative measures combine the wisdom of back-to-basics approaches with breakthrough technologies. Organizations that incorporate them into their maintenance programs stand to make substantial gains in equipment uptime, productivity and cumulative cost savings across the board.

Bill Correll is Director of Business Development for Generation Systems, Inc. He can be contacted by email at: billc@generationsystems.com.
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According to FMI, the global market for moulded fibre pulp packaging is heavily driven by the robust adoption of eco-friendly and biodegradable packaging solutions. Moulded fibre pulp offers packaging convenience and is cost effective having minimum warehousing or inventory costs.

Apart from egg packaging, leading players in the market are exploring into other end use industrial packaging, which is identified as a key trend defining the market growth in recent times. Moreover, technological advancements, and introduction of novel fibers such as sugarcane, bamboo fibers, and palm to improve the product efficiency and moulded fibre packaging quality is expected to play a crucial role in further development of the market during the assessment period.

MARKET OVERVIEW

According to the projection, global market for moulded fibre pulp packaging is set to witness a CAGR of 5.8% in revenue terms between 2016 and 2026. However, alternative packaging materials such as EPS and plastics may inhibit widespread adoption of moulded fibre pulp packaging. In addition, lower strength threshold of short fibre used as a raw material in moulded pulp packaging may negatively impact the overall market growth over the next couple of years.

Segment highlights include:
- By product type, the tray segment is anticipated to command for around 34% value share of the market over 2026. The growth of the segment is primarily attributed to the increased consumption of eggs and fruits worldwide.
- On the basis of molded pulp type, demand for transfer molded pulp is foreseen to remain high throughout the projection period. The segment is slated to account for a staggering 56% value share of the market by 2026-end
- Based on end user, food & beverage packaging is expected to be the predominant segment of the market during the forecast period. In 2016, the segment accounted for around 69% market share. Demand for molded fiber pulp packaging from consumer durables & electronics goods manufacturing sectors is expected to gain maximum traction over 2026.

WESTERN EUROPE WILL CONTINUE TO OFFER LUCRATIVE MARKET OPPORTUNITIES THROUGHOUT THE ASSESSMENT PERIOD

In 2016, the market in Western Europe accounted for a significant contribution to the global market revenue. Meanwhile, North America and APEJ collectively accounted for over 43.3% revenue share of the market in the same years. Notably, the market in Asia Pacific excluding Japan is expected to expand at a healthy CAGR of 6.6% over the forecast period. Owing to increasing concern over use of non-degradable packaging materials, demand for moulded fibre pulp is also anticipated to grow swiftly in Latin America and Eastern Europe.
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