PULPINAPER SUCCISTICS

VOLUME 12 NUMBER 57 November/December 2019 **ANDRITZ:** The next generation in screening and fractionation Page 12







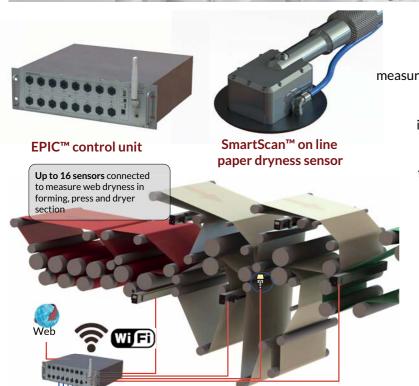
INDUSTRY NEWS

LOGISTICS

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COMMENT

IN THIS ISSUE

elcome to the final issue of Pulp Paper & Logistics magazine for 2019.

As another year draws to a close, we have been planning for 2020 and more specifically for the January issue, as detailed below.

In the meantime, it's worth reflecting on the vibrant nature of our industry and how it has been responding to the most pressing issues facing society today. These include becoming self-sufficient in its energy needs and re-using waste products productively. This past year too has seen converters offering more alternatives to plastic packaging, and this issue you'll read how chief executives are committing to the decarbonising of industry by 2050. With climate change becoming the dominant issue of the day, this is timely

Pulp Paper & Logistics has its own deadlines of course, and with the January issue these have been brought forward to both accommodate the year-end holidays and travelling by the team. This means that submissions of editorial for use in the January-February issue will need to be with us no later than Thursday 9 January. Better still, if your company has a feature article for submission it should be with us before 20 December when most will be closing their offices for the holidav.

Subjects to be covered in the January-February issue will be: mill-based wood handling and processing systems; chemical pulping; dewatering technology, and much more.

Good news is that since completing the annual reregistration in September we are pleased to announce that the number of requests from validated recipients for Pulp Paper & Logistics has for the first time exceeded 22,000.

So with that healthy figure ringing in my ears, I wish you a great festive season and a happy New Year.

Vince Maynard Publisher and editorial director

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INDUSTRY NEWS



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Vol. 12 Issue No. 57, November/December 2019

ISSN 2045-8622 (PRINT)

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Chief executives declare their strategic interest in supporting decarbonisation

hief executives from the paper industry have pledged to help create a 'climate-neutral' Europe by 2050.

During the recent annual conference of the Confederation of European Paper Industries (CEPI) in Brussels, chief executives outlined their plans to reduce the paper industry's impact on climate change in a declaration handed to Clara De La Torre, deputy directorgeneral of DG CLIMA and Timo Pesonen, director-general of DG

GROW, along with other European Commission representatives.

"With the help of the new European Green Deal, we can reduce our impact on climate change while increasing [paper] production in Europe. Our industry has a strategic interest in being at the forefront of the decarbonisation efforts for 2050," said Ignazio Capuano, incoming CEPI chairman and chief executive of Burgo group who is taking over from Karl-Henrik Sundström, chief executive of Stora Enso.

CEPI says that the industry
has already guaranteed the
sustainability of its raw materials,
improved the performance of its
processes and proven the climate

friendliness of its products.

The paper industry in Europe is calling on policymakers to support its efforts by setting an appropriate legislative framework, with:

 Improved market access for recyclable and bio-based products, through a coherent product policy and clear framework conditions for new bio-economy-related products

- More support for the sustainable management of forests and recycling schemes with forestbased raw materials being made more easily available
- A coherent, stable and predictable regulatory framework, with clear milestones for a cost-competitive energy transition, to promote and reward decarbonisation investments and to guarantee access to clean energy.

Pixelle agrees to buy two Verso speciality paper mills

One of North America's largest speciality paper makers, Pixelle Specialty Solutions, is to buy two mills from Verso Corporation for US\$400 million.

The mills are at Stevens Point, Wisconsin, and at Jay, Maine, and have a combined paper making capacity of about 660,000 tons a year. The deal is expected to be completed in the first quarter of 2020.

The Androscoggin mill at Jay currently produces flexible packaging papers, release liner base, speciality labels, kraft papers and linerboard with a yearly capacity of 450,000 tons.

Stevens Point makes coated flexible packaging papers, release liner base, thermal papers, and other speciality labels with capacity of about 210,000 tons a year.

Pixelle says that it will be the largest speciality paper business in the US when the deal is completed, producing high-speed inkjet, machine glazed and machine finished papers, release liner, thermal base paper,



The Androscoggin mill at Jay, Maine, one of two to be acquired from Verso by Pixelle

trade book paper, carbonless, greaseproof, and coated one-side speciality papers.

The two mills being acquired will be added to the two already operated by Pixelle: the Chillicothe mill in Ohio and the Spring Grove mill in Pennsylvania. The four mills, three of which have pulp operations, will have a total of 12 paper making machines with capacity for more than one million tons a year.

Other operations include a converting facility in Fremont, Ohio and wood fibre sourcing operations in Maine, Maryland,

Ohio and West Virginia.

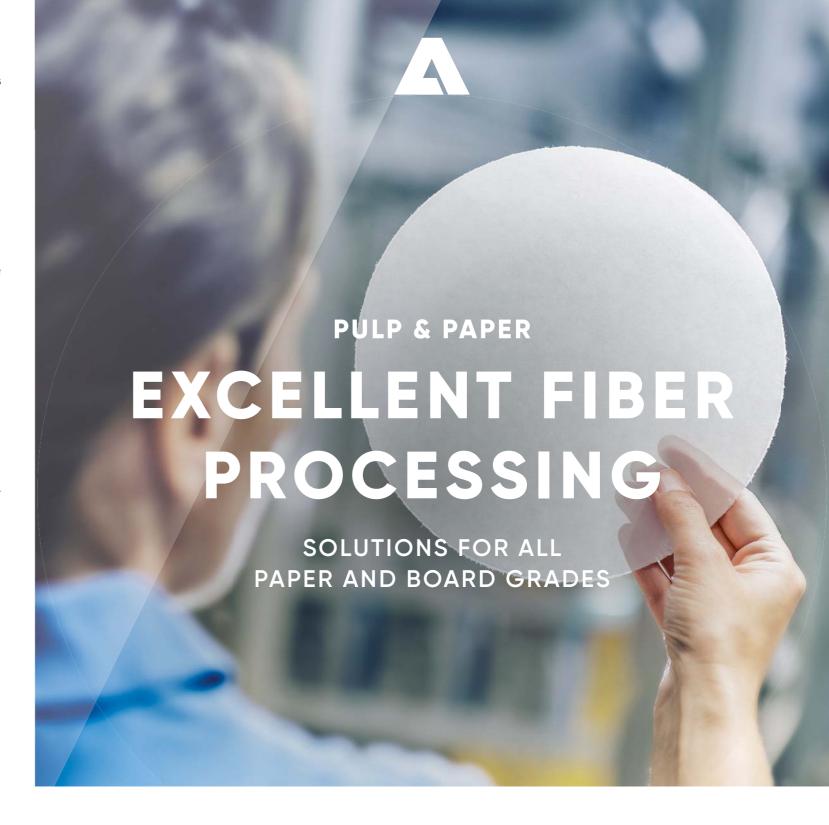
Steven Klinger, an affiliate partner at private investment firm Lindsay Goldberg which created Pixelle in 2018, commented: "When we created Pixelle, we stated that we would leverage our differentiated, customised approach to manufacturing to help Pixelle build on its great reputation with customers and strengthen its positions in the speciality paper markets it serves.

"Since then, we have made significant progress and we believe there are still many opportunities to continue to drive growth and enhance our operations. Through the addition of these two mills, we are positioning Pixelle for the future and look forward to continuing to be the best supplier and partner for our customers."

At Verso, based in Miamisburg,
Ohio, co-chairman Gene Davis
commented: "We have undergone
a thorough and comprehensive
strategic process and firmly
believe that the sale of these
two mills at the agreed terms
and conditions is in the best
interests of the company and our
stockholders. We could not be
more pleased by the efforts of the
entire senior leadership team and
of Les Lederer, our interim chief
executive officer since April."

Adam St John has since been appointed chief executive of Verso and appointed as a member of its board.

After the deal Verso will operate paper mills at Duluth, Minnesota; Escanaba and Quinnesec in Michigan; and at Wisconsin Rapids in Wisconsin with combined capacity of 2.05 million tons.



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Paper industry drives for the recycling of fibre-based packaging

embers of the Confederation of Industries (CEPI) are joining forces with companies across the value chain to drive the recycling of fibre-based packaging and collaboration in circular design and materials to enable positive change in the circular economy.

Called '4evergreen', the scheme aims to boost the contribution

of fibre-based packaging in a circular and sustainable economy that minimises climate and environmental impact. In addition, the goals are to increase awareness of innovation in fibre-based packaging materials and recycling, set guidelines for product design enabling circularity and secondary use of fibres, and support the development of optimised collection systems as well as critical recycling

infrastructures and technologies adapted to fibre-based packaging.

The alliance brings together the whole value chain. Members include Nestlé, Danone, Huhtamäki, SIG Combibloc, SEDA, Elopak, Tetra Pak, AR Packaging and Mars Group, among others

According to Eurostat, the recycling rate for fibre-based packaging in Europe is already 84.6 per cent and the volume of recycled fibre-based

invests in the US

Chinese owned paper maker

ND PAPER

packaging alone equals that of all other recycled packaging materials

Paper makers that have joined include Smurfit Kappa, Sappi, UPM, Mayr-Melnhof Group, Reno de Medici, Kotkamills, Ahlstrom Munksjö, International Paper, BillerudKorsnäs, Huhtamäki, SEDA, SIG Combibloc, Tetra Pak, Elopak, Walki, Schur Group, Cardbox Packaging and Firstan Ltd.

New recycling contract signed by DS Smith and the Co-op

DS Smith Recycling, which manages more than 5.5 million tonnes of paper for recycling a year in Europe, has signed a new five-year contract with the retail chain Co-op, one of the world's largest consumer co-operatives.

In the partnership between DS Smith and Co-op, which builds on an existing ten-year relationship, more than 55,000 tonnes of cardboard packaging will be recycled a year in the UK at DS Smith's Kemsley Paper Mill (pictured) in Kent, the second-largest recycled paper mill in Europe.

Key to the partnership is both organisations working together to maintain a consistent supply of good-quality cardboard packaging for recycling, which can then be used to make new packaging

James Williams, account director at DS Smith, said: "It's great knowing that we'll be collaborating with Co-op for another five years. Both companies are focused on deploying a closed-loop approach through the whole supply chain, with the aim of minimising impact to the environment as much as possible."

Abbie Case, category manager at Co-op, added: "Reducing our environmental impact is, and always has been, at the heart of Co-op's efforts, and we are delighted to continue our relationship with DS Recycling, who are helping us to achieve



products across DS Smith's packaging operations.

Commentating on the partnership

ND Paper, the North American subsidiary of Nine Dragons, China's largest containerboard producer, has acquired a large industrial building at Mount Pleasant, Wisconsin, indicating that it could be integrating into corrugated packaging.

The site, near Foxconn's new Mount Pleasant campus, is about 190 miles south of ND Paper's mill at Biron, Wisconsin.

In the past two years, ND Paper has bought four pulp and paper mills in the US: Biron; Fairmont, West Virginia; and Old Town and Rumford in Maine, and announced plans to shift some of the capacity to containerboard and recycled and virgin unbleached pulp.

Earlier this year, ND Paper said that it would be converting Biron's B25 paper machine from white papers to containerboard products, construction of a twoline greenfield recycled pulp facility and the construction of a water treatment and fibre recovery plant.

"We are extremely grateful for the support of WEDC and the State of Wisconsin," said Ken Liu, chief executive at ND Paper. "These strategic investments not only create 27 new positions, but also preserve the jobs of our existing workforce of well over 300 hardworking employees. Our vision is to transform the Biron division into a world-class facility that is sustainable for the next 100 years."



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Zanders continues its apprenticeship scheme

ix apprentices have been employed by Zanders at its Gohrsmühle paper mill and will be learning the skills of paper technologist, mechatronics engineer and machine and plant operator.

Thomas Döring, human resources chief at Zanders, commented that this showed the German paper maker's continued commitment to be an attractive employer that invests in its employees' futures.



This year's Zanders apprentice team and their instructors (from left): Mike Richter (day foreman paper production, instructor PT and MP), Onur Yilmaz (PT), Olegs Snikers (ME), Daniel Nadrop (ME), Nazem Hassan (MP), Norbert Mueller (PT), Patrick Pascoa (MP) and Thomas Cuerten (master electrician maintenance, instructor ME). Picture: Tobias Müller for Zanders

"As in previous years, we were able to successfully fill all offered apprenticeships," he said. Bergisch Gladbach-based Zanders offers training as a machine and plant operator for the second time this year.
The concept has proved to be
successful, explains Döring:
"With the new training, we
were able to arouse the interest
of young people, for whom a
job at a paper producer was
previously out of the question. In
addition to the industry-specific
paper technologist, with the
mechatronics engineer and the
machine and plant operator, we
now offer two further trainings
that open up new perspectives for
young people."

Pulp Paper & Logistics

Smurfit Kappa installs a digital printing line in Mexico

In response to growing demand for high-speed digital printing, Smurfit Kappa is installing the latest technology at its Atlacomulco corrugated mill in Mexico.

A Barberan Jetmaster 1890 printer with capacity to print up to 12 million square metres a year will enable the mill to reduce the lead time in getting customers' products to market.

Commenting on the new

printer, which will be operational during the first quarter of 2020, Juan Guillermo Castaneda, chief executive of Smurfit Kappa in the Americas, said: "As the leading supplier of paper-based packaging in the Americas, we are pleased to continue bringing the latest industry innovations to Mexico.

"Mexico is a market with strong growth potential, which is key to our operations in the region. We



continue to invest in this country to offer our customers market-leading, sustainable packaging solutions."

Jorge Alberto Angel, chief executive of Smurfit Kappa Mexico, added: "Investment in this revolutionary new six-colour printer is in line with our objective to respond quickly to customers' needs particularly in the FMCG market.

"This high-specification printer will offer enhanced branding opportunities and a best-in-class service for our customers."

UPM shuts down one of its three machines at Rauma

UPM shut down its PM2 machine at Rauma, Finland in November, reducing the mill's capacity by 265,000 tons a year, and with the loss of 179 jobs. UPM said the closure was in response to a decline in demand for graphic papers. The remaining two machines at Rauma will continue in production.

"The recent weeks have not been easy for us all," said Anu Ahola, senior vice president for news & retail at UPM
Communication Papers. "But
in times of a continuously
challenging market environment
and an accentuated decline of
demand for graphic papers,
we have to secure the future
competitiveness of UPM's paper
business and the remaining
assets at the Rauma site.

"We have focused on finding socially-acceptable solutions for the employees affected with the clear intention to diminish the impact of this closure. The consultation process was fair, open and constructive at all times."

* UPM Communication Papers was the headline sponsor at the 42nd FIPP World Media Congress held in Las Vegas, Nevada, in November. It is the largest event in the magazine media industry, gathering more than 800 media owners and service providers.

"As the world's leading

producer of graphic papers,
UPM, takes a special interest
in the future of the magazine
publishing industry," said
Ruud van den Berg, senior
vice president for magazines,
merchants and office business at
UPM Communication Papers.

"Digital products have become a main source of growth. But we can confirm that paper-based magazines and publications have remained an integral part of the media mix. They continue playing a vital role in addressing fast changing consumer needs by providing high quality products with strong potential for differentiation."

Lucart shows off its carton recycling scheme

talian tissue products
manufacturer Lucart
recently hosted a
delegation from Tetra
Pak to demonstrate how drinks
cartons are recycled into paper
products and dispensers.

At Lucart's Diecimo mill the drinks cartons are separated into fibre for use as tissue products that are certified EU Ecolabel and FSC, and into a material composed of polyethylene and aluminium that is used to make toilet paper dispensers and shipping pallets.

The process is the result of a project launched in 2010 between Lucart and Tetra Pak, the world's



leading manufacturer of drinks cartons. Called 'Natural', the project is said to have recovered more than 4.4 billion cartons in the five years to 2018.

Lucart's sales and marketing

chief Guido Pasquini said: "This meeting was an important moment for us to exchange information and expertise and continue to progress the strategic partnership undertaken with Tetra Pak. with which we share values and a common vision of the future, is fundamental in achieving one of our main objectives: the promotion of sustainable growth and a circular economy aimed at ensuring respect for the environment and the well-being of people. I am sure that from this meeting further joint initiatives will emerge in the future."

Paper-based multipacks for canned beer help sustainability

Drinks producers are increasingly replacing plastic secondary packaging for their cans and bottles with recyclable paper-based versions that raise their sustainability credentials.

One recent example is Belgian brewer Kasteel Brouwerij
Vanhonsebrouck, which switched from using shrink film to multipack tops supplied by Smurfit Kappa.

After being approached by the brewer, which had already switched to more easily recyclable aluminium cans from glass in a bid to circularise its supply chain, Smurfit Kappa recommended a paper-based design with an inbuilt handle to replace the shrink film.

The brewery's chief executive Xavier Vanhonsebrouck, commented: "It was very nice to be able to discuss our plans with Smurfit Kappa because they also



have a culture of innovation and worked with us to find the right solution. We have the perfect packaging for the future now."

Smurfit Kappa's chief executive of Europe, Saverio Mayer added: "The Kasteel Brouwerij Vanhonsebrouck has a lot of exciting plans to expand into new markets and an ever-growing product range that we are looking forward to collaborating with

"Both our companies share a deep commitment to sustainability and the Smurfit Kappa Better Planet Packaging initiative opens up a world of possibilities for us both."

Rebranding for Metsä Fibre products

Metsä Fibre's Botnia brand of pulp products, services and biochemicals is being replaced with the Metsä brand.

The Metsä Group says it wants to strengthen its Metsä brand, and refresh its branding and marketing to focus more on its customers.

"The pulp branding is new, but the products and product range are exactly the same, with the same northern wood raw material and guaranteed Metsä Fibre quality," it said in a statement.

Ari Harmaala, SVP for sales and customership at Metsä Fibre, added: "We are simplifying the naming of our pulp product and service portfolio by moving our pulp offering under one unified Metsä brand. We are always looking for things to improve and ways to create more added value for our customers, and that's why our new customer promise is Exceeding Expectations — a commitment that reflects our strategic aim and ambition."

PCMC in Italy acquires STAX Technologies

Italy's Paper Converting Machine Company (PCMC), part of the Barry-Wehmiller Converting group, has acquired Serbia's STAX Technologies, based in Čača.

The acquisition of STAX, which produces wrappers, bundlers, case packers and palletisers, adds reciprocating flow technology to PCMC's tissue packaging product line

"This marks a new era for PCMC," said Sergio Casella, president of PCMC-Italy. "By adding STAX's expertise and capabilities, we are the only manufacturer to offer both reciprocating and continuous flow equipment as well as complete solutions from unwinders through palletisers for customers worldwide."

November/December 2019

Lift truck simplifies the loading of trailers with paper reels

With adaptations, lower capacity lifting trucks are able to meet the specific requirements of handling paper reels. PPL reports

o simplify the process of loading trailers with paper reels in line with industry best practice recommendations, Hyster Europe has specially optimised its

J5.5XN6 electric lift truck.

"When transporting paper reels by road, it is typical industry best practice to load and position the reels down the centre line of the lorry trailer in single file to help evenly distribute weight and improve stability," says Josie Burrell, industry manager for Hyster Europe.

"This would ordinarily require a 7-tonne capacity lift truck with an attachment spacer to reach over the trailer bed and handle the reel," she adds. "However, the J5.5XN6 lift truck with tilting carriage option and a reel clamp attachment makes all of this possible with a 5.5-tonne capacity lift truck instead."

The electric J5.5XN6 lift truck design extends capability in arduous paper reel handling applications more effectively than simply increasing the lift capacity.



This is combined with a hydraulic tilting carriage which increases reach by 250mm at lorry bed height, ideal for efficiently loading reels onto a trailer in the correct position.

To help reduce costly potential damage to paper reels with the truck mast on full forward tilt, the Hyster tilting carriage option truck brings the paper reel clamp back to a horizontal level. This, combined with the stability of the extended load centre, helps

the paper reels to be placed flat, reducing damage to the edge of the reel.

A chain slack prevention valve also helps avoid wrapper damage. When the clamped load is stacked and the mast lowering function is operated, this feature prevents the mast chain from losing tension. Therefore, when the clamp attachment arms are opened, they do not slip and damage the roll wrapper.

"The right choice of attachment is key for both efficiency and damage avoidance in paper reel handling operations," says Burrell. "However, there are a number of additional options and upgrades that may help too."

This includes environment protection features, such as a belly pan, tilt cylinder boots and a sealed drive axle to prevent the ingress of dust. Also available are cameras to aide operator accuracy, detection systems that are truck-

to-truck, truck-to-object and truck-to-pedestrian and tracker telematics for fleet management.

The electric Hyster J5.5XN6 lift truck also offers space saving benefits, with a compact design and zero turn radius axle making it easy to manoeuvre in both the warehouse and the loading bay, and is said to be tough enough to withstand all weathers when used outdoors.

"Organisations in the paper supply chain are often keen to reduce their carbon footprint," says Burrell. "This electric lift truck offers zero emissions and a low energy performance mode option, providing an environmentally friendly solution but with no compromise on performance."

Hyster says its range of lift trucks and warehouse equipment offers low cost of ownership, with long service intervals, maintenance free AC traction and hoist systems, and easy serviceability.



Pulp Paper & Logistics



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- Easy to clean, increased retention, less sheet breaks
- Less fibre and water carry



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Pulp facts, not fiction



tora Enso yearly produces more than nine million tons of pulp in different grades and of that more than two

million tons is sold around the world. Based on its long history in the pulp business, the paper maker sees a lot of hidden value in the pulp value chain. It says the lack of visibility and unit level traceability inhibits companies to realise the full value of the pulp.

By using Stora Enso's complete solution for the pulp industry, its clients can achieve full traceability across the value chain, unlocking value for producers, transporters, warehouse operators and consumers.

It is offering a turn-key system with everything from RFID

pulp producers and consumers. PPL reports tags and reading equipment to

software and services.

Stora Enso's pulp logistics management system starts and ends with its pulp-industry-specific tag, ECO Bale, which is a paperbased, repulpable, and watersoluble RFID tag with superior performance through the pulp supply chain.

ECO Bale is designed and optimised for tagging pulp bales and complies with the special requirements of the pulping process. Applied to the pulp bale, ECO Bale enables end-to-end traceability until the tagged bale enters the paper making process

and dissolves.

Stora Enso's mills in Sweden and Finland is now available to all

To efficiently apply ECO Bale to the pulp bale, Stora Enso has developed the Pulp Industry Hammer System, consisting of the Hammer Central Unit (HCU), an off-the-shelf industrial-grade label applicator and RFID accessories. The HCU system has been designed and built to maximise system uptime. All selected components are suitable for industrial environments.

In operation the HCU will carry out: 1. quality control of the tag; 2. automated removal of underperforming tags; 3. tag encoding; 4. encoding data transmission

to the selected database; 5. tag encoding verification by integrated RFID reader and; 6. tag application to the bale unit

To read the RFID-tagged bale units at various points in the pulp value chain, Stora Enso offers predesigned and tested Sonar reading systems for clamp trucks, gate reading points and other points of contact. At each reading point, the data is captured by Bridge Middleware for use in production and supply chain applications. The captured data is fed through the Bridge Edge Server to customers' systems and/or to the Bridge Cloud.

Stora Enso provides tailored and secure Bridge Cloud portals for monitoring and tracking the pulp supply chain from manufacturers

For all hardware and software components, Stora Enso offers installation, integration and maintenance services, ensuring an industry-grade, turn-key solution for our customers.

The Hammer System for Pulp by Stora Enso Intelligent Packaging and seamlessly integrates RFID tag quality control, encoding and applicator as well as a read verification system. The Hammer system consists of the Hammer Central Unit, off-the-shelf industrial-grade label applicator and RFID accessories.

In many RFID applications there is a need to efficiently apply

the RFID tags to the products at high speed without interrupting industrial processes. At the same time as the RFID tag is applied, it should also be encoded and quality-controlled, and potential under-performing tags should be removed. The Hammer system is designed and built for industrial environments to satisfy these requirements.

The Intelligent Pulp process digitises the pulping process. Once the ECO Bale tag is encoded and applied to the bale unit, a digital twin is created and the unit can be traced and analysed throughout the value chain.

At every reading point, the system associates newly-updated physical data, such as location information, with the digital twin, and uses this data to optimise the process. This adds value, whether it is about improving warehouse management or optimising the production based on quality data.

The digital twin is made possible with Stora Enso's Sonar Readpoints and Bridge Middleware & Cloud.

Sonar includes versatile reading points such as gate, tunnel, clamp truck and hand-held read points, which are designed to meet customer needs. The Sonar system comes with a full installation kit, including a housing for harsh environments, connectivity modules, RF-cables, RFID readers, RFID antennas with customised mounting brackets and industrial PCs. Furthermore, Stora Enso takes care of the Sonar installations and maintenance services in the Intelligent Pulp Solution

Bridge consists of software components in the Intelligent Pulp solution. It starts with the Bridge Middleware running on Sonar Readpoints for controlling and fetching RFID data and integrating to local or cloud systems. The Bridge Edge Server works as a secure gateway between the Bridge Middleware and Cloud systems and complies to local mill IT requirements.

Bridge Cloud, built on a Microsoft Azure software platform, provides secure data storage, orchestration and access at global scale, as well as versatile APIs and applications to supply chain management. All these components are said to be seamlessly integrated and may be locally or remotely monitored with secure access.





5,400 pressure screens installed in stock preparation lines worldwide, ANDRITZ has launched its latest evolution in screening, the PrimeScreen X. The design of the new screen builds on the successes of the ModuScreen family, but offers key benefits. Its improvements in energy efficiency, screening performance, and maintainability are said to be significant.

Sampo Köylijärvi, global product manager for RCF screening and flotation systems at ANDRITZ,

says, "Focusing on customers' needs and market demands whilst benefitting from our longterm know-how in screening, the PrimeScreen X passed through all stages of product development - from the initial engineering design to prototyping and two

years of mill testing - in most demanding OCC applications." The PrimeScreen X machine,

pictured above, is ideal for all types of screening applications, regardless of the raw material.

The main design improvements of the new screen include:

Top-feed stock inlet – The design

uses gravity to quickly remove heavy contaminants. With this top-down design, abrasive contaminants that cause wear to the rotor and screen basket are not forced to flow slowly upwards through the entire screen. Topdown also improves the removal

		Flow	Consistency	Mass
		l/min	%	t/d
PrimeScreen X	Inlet	15,073 3.25		705.4
	Accept	14,059	3.11	629.6
	Reject	1,515	4.50	98.2
Competitor	Inlet 1	5,962	3.20	735.5
	Accept	14,346	2.88	595.0
	Reject	1,615	4.70	109.3

Table 1: First samples from the PrimeScreen X compared to a competitor's screen (screens running in parallel)

of light rejects, preventing their accumulation in the feed area and extending the life of wearing components.

PrimeRotor and foils for increased efficiency and lower power consumption – The screen can be equipped with the new PrimeRotor, which improves screening efficiency and reduces energy consumption by up to 25 per cent. The foils are interchangeable with any other ANDRITZ foils, and the rotor could be installed in any screen type available on the market.

Easier maintenance – Changing baskets and rotors is time-consuming work. The PrimeScreen X uses a new design of drive flange to connect the rotor to the hub, enabling maintenance or replacement to be quick and easy. The clamping system to fix the screen basket in place also enables faster screen basket changes.

	Installed motor	Motor load	Power consumption	Specific energy consumption		
	kW	%	kW	kWh/ton		
PrimeScreen X	132	78	103	3.50		
Competitor's screen	250	69	173	5.63		

Table 2: Motor data comparisons

		Reject rate	Sticky	Stickies reduction	Somerville residual	Somerville reduction	
		%	sqmm/kg	%	%	%	
PrimeScreen X	Inlet		81,364.3		6.92		
	Accept	13.9	18,328.4	77.5	0.90	87.0	
	Reject						
Competitor	Inlet		61,430.5		6.28		
	Accept	14.9	26,775.9	56.4	1.62	74.2	
	Reject						

Table 3. Side-by-side performance data for PrimeScreen X versus a competitor's screen (screens running in parallel)

Optimised screen basket height-to-diameter ratios - The PrimeScreen X is designed so

that the optimised screen basket height-to-diameter ratios meet the requirements of different

furnishes and applications. This helps to reduce the thickening factors and leads to better control >



PrimeRotor - new rotor and foil design



Streamlined rotor attachment

14 ANDRITZ **Pulp Paper & Logistics**

of fibre loss as well as reduced potential for plugging.

Results from the first installation

After extensive internal testing in ANDRITZ's stock preparation pilot plant, the first commercial installation of a

PrimeScreen installed in parallel with an The competitor's screen that existing conventional screen was replaced had 250 kW of from another supplier and installed power and operated began operating at full at around 69 per cent load, production as shown in Table 2. The PrimeScreen X had 132 kW installed power and operated

Clamped screen basket design

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was as a primary coarse screen in immediately, using the same a 1,350 bdmt/d OCC line. rotor tip speed, flows and The main targets of the consistency settings that were in

installation were to:

• Minimise energy consumption

• Achieve longer screen basket

The PrimeScreen X50 was

Improve quality

The rated capacity of the X50 was 705 bdmt/d. First samples from the PrimeScreen X compared to the competitor's unit are shown in Table 1.

place for the existing screen.

PrimeScreen X was an LRs design, the screen basket an Rejector type (0.6 mm slot), that had 21 per cent less open area than the Rejector basket in the existing conventional screen. Even with this constraint, the PrimeScreen X operated with 5.5 per cent higher capacity and much better screening efficiency – especially for stickies removal with 77.5 per

cent stickies reduction with the PrimeScreen X compared with the 56.4 per cent of the existing

around 78 per cent load. This

reduced energy consumption

by 40 per cent (from 173 to 103

kW) compared to the existing

The screen rotor in the

competitor's screen.

screen. Comparative data for the two screens is shown in Table 3. For this mill's coarse screening process, the average screen basket life in the existing screen was six-to-eight months. When the PrimeScreen X was opened up for inspection during a shutdown 10 months after

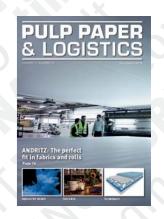
installation, ANDRITZ reports that the slot widths and profiles were excellent, and also that the underside of the rotor was exceptionally clean. Since that initial inspection, the mill continued to run the screen basket in the PrimeScreen X for 22 months before changing it. The PrimeScreen X is the natural

evolution of the ModuScreen pressure screen family. The targets for this development were to improve both the energy and screening efficiency. while making the unit easier to maintain. ANDRITZ says it is suitable for all screening applications - brown and white grades, recycled or virgin, including coarse, fine, broke, thick stock, and fractionation duties.









Two products, Two companies, One registration

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n a modern pulp mill, the lime kiln is the only major consumer of fossil fuel usually natural gas or fuel

During the oil crisis in the 1970s and 1980s, several alternatives to fossil fuel were developed to reduce operational costs. In recent years, there has been an increased focus on environmentally friendly solutions which at the same time can make pulp mills less dependent on fossil fuel. With the latest technologies and expertise, there are now several commercially proven carbon-neutral fuel alternatives. The two main alternatives are wood powder firing and biomass gasification.

At pulp mills, methanol, turpentine and tall oil may also be available for burning in lime kilns. These work well as support fuel, but they cannot normally cover

Lotta Forssell reports

the lime kiln's fuel requirements. Valmet also has the technology to extract lignin from black liquor, which can be used as fuel.

Safe and proven wood powder firing

Typical wood-based biomass fuels used in direct-fired rotary kilns range from wood chips and pellets

to sawdust. Before the wood can be used as fuel in the lime kiln. it needs to go through drying and grinding steps to give suitable characteristics for firing.

Biomass-based alternatives for moving into 100 per cent

renewable fuel for lime kilns have been developed by Valmet.

Designing a lime kiln to operate with wood powder firing is a balancing act. As in all mill processes, safety is a key factor. To avoid wood unintentionally catching fire, its temperature is monitored, and good housekeeping is important, especially in the grinding system. In addition to safety, the moisture

content and particle size is optimised for energy efficiency and kiln operation.

In the drying process wood moisture content is reduced from a typical 30-50 per cent to between five and eight per cent. The lower the moisture level in the dried wood the more efficient the kiln operation and kiln capacity. A low-temperature belt dryer is often the preferred option for drying, because it can utilise waste heat from other mill processes, is robustly designed

and is suitable for heterogeneous particle sizes.

Moisture content also impacts the grinding process – the higher the moisture content the higher the power consumption. The particle size needs to be optimised as fine and moist wood powder starts to block the hammer mill screens. Moisture has also a significant impact on the kiln operation as the moisture in the wood powder will evaporate, which reduces the flame temperature in the burning zone. Table 1 shows the impact on the kiln temperature profile, exhaust gas flow and fuel consumption when increasing the moisture in wood powder. The values are compared to the main fossil fuels oil and natural gas.

Controlling the flow of wood into the kiln is an important factor in stable kiln operation. Unstable flow will cause a variation in heat input to the burning zone, impacting product quality. The lime kiln burner needs to be flexible and able to safely and efficiently burn several different types of fuel.



Valmet has delivered several wood powder firing systems utilising sawdust, pellets or wood chips.

SCA's Munksund paper mill in Sweden utilises pellets as a wood powder source.

Claus Jensen-Holm, director for

lime kiln technology at Valmet, says: "We have shown during the last decade that wood powder firing has become a fully

	Exhaust gas temperature, °C	Exhaust gas flow, Actual cubic metres/ sec (wet)	Fuel consumption, %
Oil – reference, typical values	~285 ref	~52 ref	100 ref
Natural gas	+50	114	105
Wood powder, 0% water	+3	99	101
Wood powder, 3% water	+12	102	101
Wood powder, 5% water	+18	104	102
Wood powder, 10% water	+35	110	104
Wood powder, 15% water	+56	117	107

Table 1: Estimated temperature profile, exhaust gas volume and fuel consumption relative to heavy fuel oil reference case for natural gas and wood powder with various moisture level. The values in the calculations are typical values for a 700tpd modern lime kiln with cooler and flash dryer









Typical wood-base biomass fuels used for direct fired rotary kilns range from wood chips and pellets to saw dust

commercial, proven and – most importantly - safe solution for lime kilns. Today it is possible to convert a pulp mill into a fossilfree mill and thus reduce the mill's carbon footprint and fuel costs."

Fredrik Lind, production engineer at the SCA Munksund mill, adds: "Our lime kiln was 50 years old and had seen better days. To match our strategy of being fossil fuel free, we decided to build a new kiln utilising biofuel. The new kiln was ready and in operation in January 2015. At first, we had major problems with, for example, ring formation and variations of fuel flow.

"After many hours of

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trouble shooting and process improvements, we have now taken a huge step toward the goal we set from the outset: a fossil-free kiln with great operational effectiveness and a low impact on the environment."

Utilising bark in biomass gasification

Unlike in wood powder firing, bark can be used as a biomass source in gasification. Biomass gasification is a combined system of biomass dryer, gasifier and lime kiln, optimised for burning the product gas. After drying, bark or other wood residue is gasified in the CFB gasifier at high temperatures using a controlled amount of air. The resulting product gas is then burned in the lime kiln burner, which is optimised for product gas.

"One of the challenges is controlling the whole process,"



explains Juhani Isaksson, business development manager for gasifiers at Valmet. "Bark is not a uniform fuel, and it is important to understand how the process should be controlled and optimised. This is where Valmet's complete understanding of the process from the dryer, gasifier and lime kiln operation comes into its own."

Valmet has delivered four gasifier-lime kilns for pulp mills, one of the first to be

implemented being at Metsä Group's Äänekoski bioproduct mill.

"Bark-derived product gas is produced for the bioproduct mill's lime kiln," says Ilkka Poikolainen, vice president of the



Äänekoski bioproduct mill. "This is one example of solutions which enable the mill to be fully free of fossil fuels.

"In these projects we have proven that lime kilns fueled with gasified biomass is safe and works well. We have achieved more than 100 per cent of the design capacity, our customers have been able to operate with 100 per cent gasifier gas, without support fuel and have reached good lime product quality of 2-4

per cent calcium carbonate," Isaksson concludes.

Choosing the best alternative

The driver for choosing a biomass-based system may be

the company's commitment to reducing carbon dioxide emissions or the availability of suitable biomass as a byproduct of mill operations. In recent years, Valmet has delivered both gasification and wood powder solutions for new mills and rebuilds.

"The best solution and the business case has to be evaluated each time, based on the available biomass, kiln size and possible bottlenecks in the process.

Gasification is the right solution for mills with a large or medium-sized kiln and which have bark at their disposal, while wood powder firing is most suitable for smaller kilns,"

Jensen-Holm explains.

It is also possible to convert existing fossil fuel kilns to use either wood powder or gasification, but it must be acknowledged that replacing the kiln fuel may impact kiln design and operation.

New possibilities in forming

A range of low-friction forming fabrics using new weave patterns offers lower energy consumption, says Heimbach. PPL reports

ith Heimbach's new addition to its Primoselect forming portfolio papermakers can expect even more lifetime, formation and energy savings. Primoselect Plus (+) is set to expand the benefits offered by the patented product

Olli Kääpä, Heimbach's vice president for products, says that over the past few years Heimbach has strategically extended its forming fabric product portfolio.

Long experience with multilayer forming fabrics

Anyone who understands the importance of runnability and cost reduction "will always find the right solution with Heimbach," says Kääpä, referring to savings potential in terms of energy, raw materials and additives, as well as paper quality.

"As with every product innovation, it was critical in this case to show increased benefits for our customers" he explains. Now a new chapter has begun,

says Kääpä, looking back to the late 1990s, when the first sheet support binding (SSB) fabrics came on the market.

These forming fabrics brought a change to the business of papermaking, due to the fine paper side surface and robust machine side that were made possible by integrated binder

"We were part of this from the beginning, when these designs became universally popular, and in the meantime, we have become established among the leading suppliers. Our classic Primobond and Primocross brands have been well proven for many years in the most diverse applications."

Responding to every need

Kääpä, who has worked at Heimbach for more than 25 years, points to the widened product range in the forming section, as shown in Table 1.

"Heimbach continues to offer tailor-made solutions for all types of paper - from pulp to tissue. With Primoselect, which we

Figure 1: Primoselect with just one binder yarn - all unnecessary yarns are removed giving a more

Product	Suffix	Design	Pulp	Board	Fluting	Kraft	Fine	News	Magazine	Magazine coated	Extra Fine	Tissue
primoplan	HD	Double Layer		•	•	•						
primoplan	F	Double Layer		~			~					~
primobond	HD	SSB		~	~	~						
primobond	F	SSB		~		~	~	~	~	<	~	
primobond	SF	SSB					~	~	~	~	~	~
primocross	SF	SSB					~	~	~	~	~	
primoselect	Р	SSB (new)	~									
primoselect	HD+	SSB (new)		~	~	~						
primoselect	F	SSB (new)		~	~	~						
primoselect	F+	SSB (new)		~	~	~	~	~	~	~		
primoselect	SF+	SSB (new)					~	V	~	~		~

Table 1: Forming fabric portfolio at a glanceopen structure

unveiled in 2013, papermakers are able take advantage of previously unprecedented possibilities thanks to the patented weaving design which comprises only one integrated binding yarn," says Kääpä. This is illustrated in Figure

The papermaker contributes to

the precise specification by prioritising needs such as formation, lifetime, former hygiene or energy savings. Primoselect scores highly on the last point in particular, with energy savings a priority with the new Plus (+) varieties.

A double plus

"The Plus+ designs effectively constitute a stand-alone product line," says Hamish Parsons, strategic product manager for forming at Heimbach. In addition to Primoselect SF+ (Super Fine) for graphical applications now, Heimbach also offers Primoselect HD+ (Heavy Duty), a design developed specifically for packaging applications.

These fabrics also meet the challenge of being able to combine several benefits. "The



Figure 2: Premium solution: Eight-shaft weave pattern on the machine side

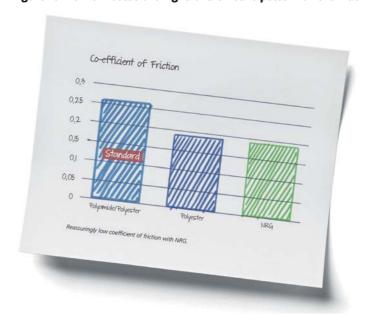


Figure 3: Reassuringly low coefficient of friction

HD+ design combine two core aspects which until now have not been available in combination in any other forming fabric," says Parsons, who explains why.

Firstly, the Plus alternatives are characterised by an eightshaft weave pattern on the

machine side, as shown in Figure 2. Secondly, the machine-side cross-direction yarns, designated with the name NRG, benefit from an especially low coefficient of friction, (as shown in Figures 3 and 4). This special design and material combination also

abrasion resistance. The machineside construction, in keeping with the general Primoselect concept, offers a range of options depending upon requirements and objectives. Therefore, the proportion of the NRG highperformance monofilaments can vary between 50 and 100 per

meets demands for maximum

One design – many benefits

Improved wear resistance and, in particular, a lower CoF are assured with the Plus varieties: "Papermakers will make noticeable energy savings," claims Parsons. In itself, the eightshaft construction is nothing new, as this has been standard in the industry for some time, but Heimbach believes the combination of weave pattern and materials is revolutionary.

Add to this improved cleanliness. reduced fibre carry and lower

energy consumption, with the latter attributable to the new material combination, as well as a more open structure and reduced caliper of the Primoselect weave. With the elimination of the redundant second binder yarn, fabrics are thinner and water can flow through the structure more

"The water removal is excellent," explains Parsons, explaining that apart from the fact that each Primoselect fabric has a lower void volume, new material only absorbs small amounts of fluid (water absorption is 0.3 per cent as shown in Figure 5). This means a very high drainage capacity with first-class retention, and also reduces costs for chemical additives

Parson concludes: "We are now discussing the Plus variant with more and more customers, and all installations up to press are highly promising."

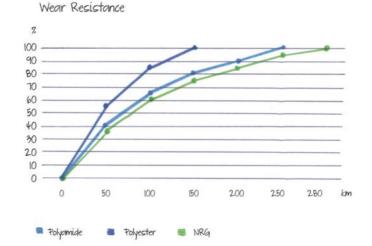


Figure 4: Superior wear resistance with NRG - the high performance monofilament.

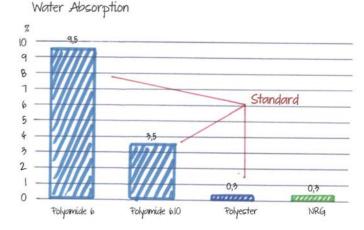
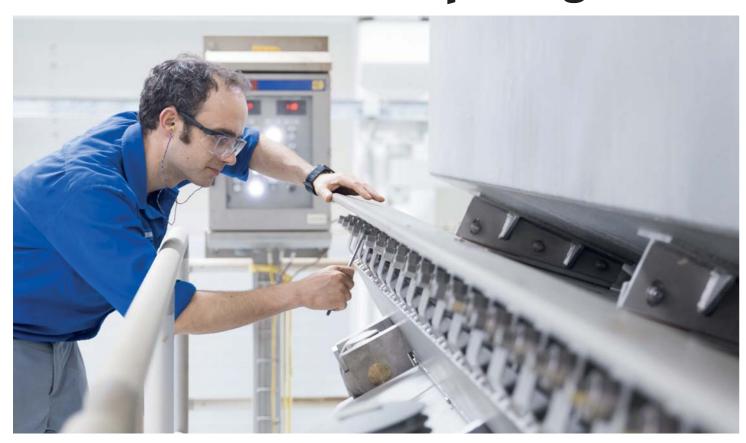


Figure 5: Water absorption of only 0.3 per cent

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open structure

Improve line performance with headbox service package



he performance of the headbox is decisive for overall product quality on a paper making line.

Preventive maintenance and parts management guarantee that the headbox is in proper condition. With Voith's headbox service and spare parts, paper producers profit from both the technological and mechanical know-how of a full-line supplier as well as perfectly fitting original equipment that keeps the headbox as good as new throughout its lifecycle.

For ideal operation of the headbox, it is essential to identify problems from the beginning, says Voith. For example, wear and deposits of the slice lips, deviations of the lip opening and

failure of limit switches can lead to costly problems.

This deterioration can be caused by reduced crossprofile quality, an increase in web breaks, damage and unplanned downtimes. Therefore, continuous and comprehensive service that considers all these issues is vital.

Within its Servolution equipment service, Voith offers professional headbox servicing and original spare parts not only on demand, but also preventatively within service agreements. These agreements ensure that the best headbox performance is maintained through defined service intervals.

At regular intervals, the bottom lip, top lip and separate wedge

will be checked and replaced when necessary. One of the main features of the MasterJet Pro headbox design is that the bottom lip can be easily exchanged and sent to Voith for in-house refurbishment.

The benefit to the customer is said to be two-fold. Voith reckons that downtime of the paper machine is reduced by an estimated 70 per cent compared to the services of competitors because as-new parts are replaced on site.

Furthermore, Voith uses inserts made of polyphenylsulfone which compared with other materials has a 50 per cent longer wear life and much higher chemical resistance.

Over the years, Voith has

delivered more than 4.000 headboxes and has serviced many of these throughout their lifetime. As a full-line supplier, Voith provides comprehensive service according to customers' specific needs, including condition checks, inspections of the complete headbox, reports and technological optimisation.

During a headbox service, experts inspect the complete headbox area for deposits. damage and wear. In many cases, daily web breaks can be reduced by up to 80 per cent, says Voith.

More information from Anja Matuschka, Junior Manager Market Communication EMEA Voith Paper, Voith GmbH & Co. Tel: 49 7321 37 2077. Email: Anja. Matuschka@Voith.com

A link to a base in Italy could help tissue machine performance

hat is described as the 'nextgeneration' technological environment in which information about a tissue making or converting machine's performance status is monitored over the internet by engineering experts was launched at the MIAC trade show in Italy by Fabio Perini Spa

At Fabio Perini's Tissue Performance Center in Lucca, the engineers, supported by data scientists, are able to suggest improvements to maximise the overall equipment effectiveness (OEE) of production lines at their customers' mills.

More than 1,000 machines around the world could be linked



to the centre.

"The customer connects his machine to the Tissue Performance Center," says Franco Franceschi, customer service performance services manager, explains. "This way,

output data, motor temperature and parameters are constantly monitored. These values. compared with historic production data, allow the Fabio Perini experts to remotely implement corrections to enhance the

efficiency of the production lines, and to detect possible causes of malfunctioning and to establish beforehand the appropriate actions to solve them."

Franceschi continues:

"Performance reports, background analyses to evaluate cause/ effect and now also control on energy consumption are part of an articulated path that will lead us in the near future to a learning machine capable of autonomously interpreting data and of improving by its own the machine performance under every condition."

More information from Fabio Perini Spa, Via Giovanni Diodati 50, 55100 Lucca, Italy. Tel: 39 0583 4601. Website: www. fabioperini.com

Manage large volumes of plant data with resource manager

Yokogawa Electric Corporation has launched Plant Resource Manager (PRM) R4.03, the latest version of a software package in the OpreX Asset Management and Integrity family that facilitates the monitoring and control of plant operations by centralising the management of large volumes of data from instrumentation and manufacturing equipment.

PRM R4.03 features device diagnostic functions that help to optimise plant maintenance and ensure safe operations. This translates into higher efficiency and advances the transition from reactive to predictive

Plants have become increasingly reliant on digital communications to handle a growing amount of data. As a result, operators enjoy improved access to field device maintenance information and information on process parameters. In response to customer needs for greater maintenance efficiency and reduced risk of device failure, Yokogawa has enhanced PRM's device and equipment diagnostic functions to make more effective use of data from digital devices for afdjusting their operating conditions. Also, to streamline

operations, a function that helps to set device parameters has been

Enhancements to the starter edition include InsightSuiteAE, which enables the viewing of diagnostic data that can aid in the identification of device degradation. This proactive condition-based monitoring reduces the daily workload for maintenance personnel because only selective device checks need to be carried out.

PRM now comes with an interface for generic systems that enables the software to connect

with device and equipment diagnostic systems. This helps to identify abnormal conditions in peripheral equipment and field

Also, a device parameter audit function has been added that enables parameter checking to be performed immediately at plant start-up. This confirms that the correct parameters have been set for all field devices of the same model and makes it easier to troubleshoot problems by checking parameter changes and

More information from www. yokogawa.com

Automation management is no longer tied to the control room

almet has introduced a web-based user interface for its **DNA** automation system that extends the use of automation beyond the traditional control room. Leveraging modern web technologies, the innovative DNA User Interface (DNA UI) is a part of the continuous renewal of the DNA automation system, which is used in pulp, paper, energy and other process industries.

The system adapts information based on the needs of various users and user groups. Relevant information is said to be delivered in visual, well-structured, easyto-understand dashboards, process and sub-process views, which enable the users of the automation system to better control the process.

Jukka Ylijoki, vice president



of R&D at Valmet's automation business line. commented: "It is essential for us to understand how our customers consume information, so we can help different user groups to process information faster. In DNA UL we have structured and visualised data in new ways to make the

workflow more intuitive - which in turn helps to make faster conclusions based on the data."

Rather than tying operators to the control room, DNA UI comes with a secure web-based portal that enables the plant teams to access relevant information whenever they need it, regardless of their location.

"From logistics and laboratory to the boardroom, the entire site community needs specific information about the process. With Valmet DNA User Interface, users no longer need to stay in the control room to be on top of the situation," Ylijoki concludes.



Web imaging system enhanced by ABB



wo new features have been added to ABB's **Web Imaging System** which is designed to help manufacturers deliver products to specification.

For fine paper and paperboard makers who want to optimise printability of their end product, reduce rejects and achieve consistent output quality, Full Sheet Formation Analysis provides highly visualised measurement of paper uniformity for the full web. The new patent-pending feature can be used to redefine the standard of measurement accuracy, and more precise analysis of formation, helping papermakers better optimise established properties to achieve higher quality.

While traditional measurement techniques look at only a small portion of the web and may not reveal the floc sizes or shapes, ABB's full-sheet system leverages proprietary methods, processing parallelism, and the flexibility of the field-programmable gate array (FPGA) based smart camera to reveal and classify paper formation floc sizes and shapes. This greatly improves the ability to determine uniformity while removing misleading results.

For linerboard and liquid packaging manufacturers that require accurate detection and analysis of wrinkle formation, Real-Time Wrinkle Count provides online measurement and analysis of all paper web-based products.

The new feature is said to be the only system available for pulp and paper manufacturers that identifies wrinkles and aggregates the data to easily reveal problems across the web in real time, giving papermakers a competitive edge on maintaining quality.

The feature captures up to 1.4 million wrinkle defects per camera and sends alerts when KPIs are outside of user-defined thresholds. It then aligns defect maps to sample machine or cross direction location. It provides highly consistent results, enables precise laboratory correlation, enables better management of the process, and reduces the amount of rejects

"The launch of these two

powerful new features demonstrates our continued investment in our Web Imaging System and reinforces our commitment to helping papermakers achieve the highest quality in their product output," said Stephen Mitchell, product manager for web imaging at ABB. "We are determined to push the industry forward with the development of new measurement techniques that use the most advanced technology to make online quality control easier to achieve."

More information from ABB Inc, 579 Executive Campus Drive, Westerville, Ohio 43082, USA. Tel: 1 614 818 6300. Website: www.

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World's largest and fastest kraftliner machine for Ilim Group

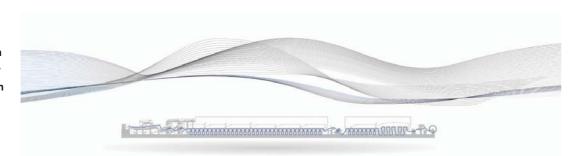
ussia's largest pulp and paper maker, Ilim Group, is working on a project to significantly expand its kraftliner capacity with a new line at Ust-Ilimsk mill in eastern Siberia.

The Voith line will be the largest and fastest kraftliner machine in the world with capacity for up to 600,000 tons a year when it starts up in 2021, it is claimed.

Ilim Group already produces more than three million tons of paper products a year.

Core of the PM1 line will be the latest-generation XcelLine with a wire width of 10.3 metres which with a speed of up to 1,200 metres per minute will have capacity to daily produce 2,150 tons of kraftliner with basis weights of between 80 and 175 grams per square metre, making it the most productive of its type in the world, says Voith.

In addition to the XcelLine machine, two BlueLine stock



preparation systems are also included – one for hardwood pulp, the other for softwood pulp.

"Ilim sees its leadership role

not only as the largest pulp and paper product manufacturer, but also as an investor into state-of-the-art innovative technologies. This investment decision was based on impressive results demonstrated by Ilim Group in the Asian market," said Xenia Sosnina, general director of Ilim Group.

"We know this market well and see its opportunities. The contract we have signed is one of the largest in the history of the Russian pulp and paper industry. Our project will be one of the most advanced high-tech projects in the global pulp and paper industry, and will provide the Asian market with the volumes of high quality products it demands."

As part of the process line package (PLP), Voith will have responsibility for the project, ensuring that the plant starts up safely, on schedule and with precisely coordinated components. Voith says the PLP will connect required interfaces and contact people and simplifies the project handling, which ultimately also reduces costs. Voith will provide system

components including screens for each section, as well as comprehensive Papermaking 4.0 digitising technologies. It is also responsible for the electrical equipment and the entire drive system of the plant.

"Voith is partnering with
Ilim Group in this historical
and outstanding project," says
Christoph Müller-Mederer,
president for projects in the
EMEA region at Voith Paper. "It
will become a milestone for the
Russian pulp and paper industry,
and we are proud to contribute
with our deep experience and
latest innovations."

Upgrade for Oberkirch mill's PM5 line

he Oberkirch paper mill of August Koehler is having its PM5 machine modernised by Voith.

The plan is for the machine to be developed so that it is more competitive with greater flexibility as a result of higher efficiency, with fewer web breaks leading to less downtime.

The upgrade with 'high-tech components' will enable the mill to produce paper coated on both sides to be produced with a larger operating window. The paper machine is also being prepared for a speed increase in a possible second expansion phase.

Voith's upgrade incorporates a SpeedSizer AT applicator unit, which is ideal for fast running paper machines, a qDryPro Compact contactless high-performance dryer, and a PrevoSystem for short and reliable threading. For the pulpers in the press and reeling section, new pulping units are to be installed for more effective



pulping of the broke.

"The main reasons for upgrading our PM5 are to increase efficiency, improve flexibility to allow a wider range of paper grades, and reduce costs," says Hartmut Felsch, Oberkirch mill and division director for the papermaker, whose full name is Papierfabrik August Koehler SE.

One of the few independent family-owned paper makers Germany, Koehler Paper Group was founded more than 200 years ago and now has sales of around €900 million (US\$997m).

With headquarters at Oberkirch, Koehler operates mills in Kehl, Greiz and Weisenbach, with 1,850 staff who produce more than 500,000 metric tons a year of speciality papers and board for customers worldwide.

Performance agreement renewed at Whakatane Mill

A multi-year agreement for continuous performance service has been signed between Valmet and Whakatane Mill Ltd for its PM3 line in New Zealand.

The original performance agreement was signed in 2014 and was later extended for a three-year period. This renewal is the second extension with continuous and systematic development of Whakatane PM3's productivity and quality with targets regarding availability and optimisation.



From left: Pierre de Villiers of Valmet, and Juha Verajankorva and Mark Hammond from the Whakatane Mill

"Valmet is an experienced service provider and supports us to get the most out of our existing

assets," says Peter McLaverty, head of continuous improvement at Whakatane Mill Ltd. "Our team on site has worked closely with Valmet's global experts over the past five years to achieve the agreed targets.

"We plan to bring the machine and our cooperation to next level."

Owned by SIG Corporation since 2010, Whakatane Mill operates one board machine and an integrated stoneground wood pulp mill, and produces 140,000 tonnes of liquid packaging board and folding boxboard a year.

Operational improvements for pulping at Lee & Man

A chemical removal process is being supplied to Lee & Man's pulp mill at Chongqing in China by Veolia.

The chloride and potassium removal system featuring HPD processes is designed to improve pulping operations that support the production of packaging containerboard and tissue paper Lee & Man, one of the world's

Lee & Man, one of the world's leading paper producers, has been manufacturing linerboards and corrugated packaging products since 1994. More recently it has also become a leading tissue paper producer.

Facial and bath tissue grades manufactured by Lee & Man are said to be cost competitive due to the integration of a 180,000 tons per year unbleached bamboo pulp line that blends kraft pulp and eco-friendly bamboo fibres at the Chongqing mill.

Using a two-stage crystallisation process, Veolia's ECRP is designed to treat 72 tons per day of

precipitator ash to recover 93 per cent of the sodium and remove 89 per cent of the chlorides and 96 per cent of potassium in the ash.

This enables Lee & Man to maximise sodium chemical savings while maintaining high chloride and potassium removal that prevents the undesired accumulations in the precipitator ash, which if left uncontrolled, can create corrosion and significant capacity losses due to

boiler fouling

"Veolia is pleased to help Lee & Man further optimise their production site in Chongqing. As we have proven to other recyclers and kraft pulp producers, Veolia makes it possible to reach a substantial reduction in persistent non-process elements while achieving significant chemical savings that reduce operating costs" says Jim Brown, executive vice president at Veolia Water Technologies Americas.

Mitsubishi's combined heat and power deal in Germany extended

collaboration in which a combined heat and power (CHP) facility has been providing energy to Mitsubishi HiTec Paper at its Bielefeld mill in Germany since 2013 is to be extended for another five years.

Mitsubishi HiTec Paper signed the deal in September with public utility company Bielefeld Stadtwerke to continue supplying the mill with electricity and

Joint managing directors of Mitsubishi HiTec Paper, Dr Martin Schreer and Andreas Jastrzembowski, said: "We are delighted to continue this collaboration with Stadtwerke Bielefeld. All of our heat and power has been supplied by our partner, with whom we have had good experience for 15 years. A reliable and sustainable efficient



The managing directors of Mitsubishi HiTec Paper and Bielefeld Stadtwerke have continued the consortium that provides energy from a CHP plant

energy supply is enormously important for our production."

Martin Uekmann and Rainer Müller, managing directors of Stadtwerke Bielefeld, also commented: "The plant in

Hillegossen makes a significant contribution to energy transition. That's another reason why we are pleased that Mitsubishi HiTec Paper has decided to continue working with us. As a company, we have relied on renewable energies for years and support energy transition. This also includes highly efficient combined heat and power plants such as those in Bielefeld Hillegossen."

In the next five years, Stadtwerke Bielefeld will invest around €2.2 million in further modernising of the facility, a highly-efficient CHP plant that saves around 14,000 tonnes of carbon dioxide emissions a year compared to conventional production.

Mitsubishi HiTec Paper Europe GmbH is the German subsidiary of Japan's Mitsubishi Paper Mills Ltd. a leading manufacturer of speciality papers. With 750 employees, Mitsubishi HiTec Paper Europe produces highquality direct thermal, inkjet, carbonless, label and barrier papers at its two mills, Bielefeld and Flensburg.

Successful startup for Europe's largest MG paper machine

urope's largest MG paper machine, which was started up by Andritz at Zellstoff Pöls AG in Austria two weeks early at the end of May, is said to be setting new benchmarks in the production of environmentally-friendly paper for flexible packaging and release applications.

With a working width of 5.4 metres and a design speed of 1,400 metres per minute, the PM3 machine has capacity to produce 100,000 tonnes of grades with low basis weight and highest strength with good printability and smoothness levels

Zellstoff Pöls AG says the machine exceeded all expectations in the first four weeks after start-up, with design capacity being reached in stable



operations within three months. Paper grades with basis weights between 22 and 52 g/sqm were produced.

The heart of the PrimeLine MG paper machine is the PrimeDry MG Steel Yankee, which is the largest of its kind in the world

with a diameter of 24 feet (7.315 m), beating a record established in 2013 when the PM2 machine was started up in Pöls with a 22feet Yankee.

All process technologies, including the stock preparation line and approach flow system

were provided by Andritz. One of the key components is the new Vertical Screw Thickener (VST), which dewaters the pulp efficiently from a consistency at inlet of 3 per cent to between 25 and 30 per cent at the outlet.

Jürgen Rieger, production manager at Zellstoff Pöls AG, commented: "We were very impressed with start-up and the first few months in operation that followed, just as we were with start-up of PM2 by Andritz in 2013. Commencing operations ahead of schedule with a plant of this complexity is really exceptional."

Siegfried Gruber, overall project manager for PM3 added: "Collaboration with the team from Andritz was excellent, and this was also reflected in the outstanding PM3 start-up curve."

Automated board machine for JK Paper in India

A highly-automated board machine with internet links has been ordered from Valmet by JK Paper for its Fort Songadh mill in India.

JK Paper is planning to increase its share of the growing Indian market with more local supply when the machine starts up at the end of 2020, which will increase its total capacity to 800,000 tons a year.

S K Jain, head of the packaging board project at JK Paper, commented: "To increase

to invest in coated board technology we could really rely on. For this reason, we tested the technology concepts at Valmet's pilot facilities.

"We are also planning to use the piloting services to further develop our paper board products later in the project. Valmet's know-how on coated board making with a long list of good references further strengthened our decision,"

The package will include a new

coated board machine, from the headboxes to reel with air dryers, chemical systems, heat recovery and other boardmaking systems. The coating is applied in multiple coating stations including an advanced Opti Coat Layer coating station, which applies two coating layers simultaneously. A disc filter from Valmet's new Mill Process Solutions Business Unit (former GL&V) and an automation system with Valmet Performance Center (VPC) services that

feature on-demand expert support will also be included.

The 4.25-metre wire width machine will produce folding boxboard, solid bleached board and cup and barrier board

Founded in 1962, JK Paper Ltd has two large integrated paper manufacturing units, JK Paper Mills at Rayagada, Odisha and Central Pulp Mills at Songadh, Gujarat, with a current combined annual capacity of

Dezhou Taiding in China orders fibreline

Chinese paper maker Dezhou **Taiding New Material Science** and Technology has ordered a pre-conditioning refiner chemical alkaline peroxide mechanical pulp (P-RC APMP) fibreline from

The system at Dezhou Taiding's mill in Shandong province will process poplar as the raw material, and the fibre produced will be used on the papermaker's own machines for printing and writing paper and board grades. It will have a capacity of 400 tons per day when started up in the third quarter of 2020.

Andritz will supply the key components for the mechanical fibreline, ranging from chip washing to the reject treatment system.

Engineering, training, supervision of the mechanical installation commissioning and start-up are included in the project.

The MSD 400 Impressafiner is said to assure a high degree of chip delamination and thus contributes to uniform bulk density and optimum removal of moisture and extractives.

Pre-bleaching of chips as well as high-consistency refining by a \$2070 single-disc refiner will improve pulp quality and keep shives as low as possible

Dezhou Taiding was founded in 1998 and today is a jointstock company serving the pulp production, papermaking and thermo-electricity business.



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First tissue line start up in Dominican Republic

Dominican Republic has started tissue manufacturing and converting with a new line at its Santo Domingo mill that includes a steel Yankee dryer supplied by Toscotec.

The TT SYD dryer is the first installation in the Caribbean market for the Italian paper making equipment manufacturer.

Jesús Feris Ferrús, technical director at César Iglesias, says: "When we selected the supplier for this investment, we thought that the TT SYD's superior performance and short delivery time made it the most competitive choice in the market.

"This was our first cooperation with Toscotec and we have been



positively impressed by their technical and project management team. The energy efficiency of the TT SYD will allow us to reduce the manufacturing cost of our tissue line and give us a competitive advantage in the market."

Following start-up, Toscotec says the mill has seen a marked

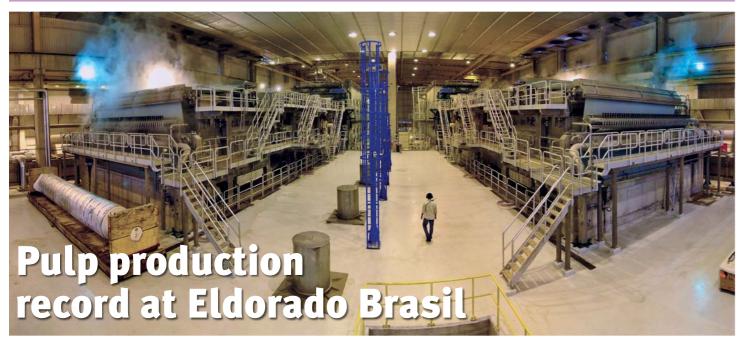
increase of production capacity and energy savings in the drying

Following R&D on Toscotec's Steel Yankee Dryer, the height, width and pitch of the internal ribs as well as the shell thickness achieved an optimum geometry, which guarantees efficient heat transfer.

The project also included the steam and condensate system, the Yankee coating spray boom, a new forming roll, as well as the complete overhaul service of press rolls.

Toscotec's pressure vessel technical manager Simone Pieruccini adds: "As soon as we understood the customer's need for a fast delivery, we rearranged the production schedule to reduce the construction time as much as we could. From a technical point of view, we were in tune with César Iglesias' team, which made our first cooperation very easy for everybody."

César Iglesias SA manufactures 27 brands of cleaning, home and personal care and food products with more than 2,000 employees and 21 factories.



A pulp production record of 5,576 ADmt/d was set at the Eldorado Brasil pulp mill at Três Lagoas, Brazil, in September.

The MS2 line, which was provided by ANDRITZ, also set a record for

continuous running without a sheet break of 200 days.

The mill, which started up at the end of 2012, has since achieved a number of production records.

ANDRITZ delivered the wood yard,

complete fibreline, white liquor plant, and a new generation of pulp drying plants to Eldorado, including two parallel Twin Wire Former pulp machines, two airborne dryers, two cutter-layboys with a 6.67m

working width, and four bale finishing lines.

Capacity of the Eldorado Brasil mill is around 1.8 million tons of dried, bleached eucalyptus market pulp a year.

New lime kiln and fibreline for **SCA Obbola kraftliner expansion**



ulp and kraftliner production at the SCA Obbola mill at Umeå in Sweden is to be upgraded with key technologies provided by Valmet and Voith to meet growing demand for paperbased packaging.

SCA is investing SEK7.5 billion (€700 million) over a five-year period at the mill to increase kraftliner production from 450,000 to 725,000 tonnes per

The technology includes the upgrade by Valmet of an existing fibreline that will start up in June 2021 and a new fossil-fuel-free lime kiln that will be started up in final quarter of 2021.

"With the investment in the Obbola mill, we can meet the increased demand for sustainable packaging," said Per Stand, project director at SCA. "We selected Valmet to deliver new technology for our pulp mill upgrade as we

have had good experiences of Valmet technology at both our Obbola mill and other SCA mills."

The new lime kiln system will

replace two old oil-fueled lime kilns and will have a daily capacity of 220 tonnes burned lime. Equipment includes an OptiDisc Lime Mud Filter. Flash Drver for lime mud drying, a high efficiency Rotary Cooler and a full Wood Powder Firing System for the lime kiln, including storage and grinding of wood pellets.

The fibreline upgrade includes hot stock refining after the digester using Conflo refiners. The brown stock washing will be improved by adding a new TwinRoll press as the last washing stage before the storage towers for the paper machine. As a result of the fibreline upgrade the daily capacity will increase from the current 850 to 1,100 air dry tons. Voith is providing a BlueLine

stock preparation system, an

XcelLine paper machine, longterm efficiency agreement and a Voith Process Line Package (PLP)

The new XcelLine PM2 paper machine will have a wire width of 10.2 metres and with a speed of 1,400 metres per minute will be the most productive of its kind when it starts up in the first guarter of 2023.

Key features of the OCC plant include the IntensaPulper, the industry benchmark for energy efficient pulping, and the maintenance-free Bagless Disc

The multi-ply forming section with the DuoFormer Base and the MasterJet Pro headbox are tools for the online control of critical product quality criteria. The well-proven TripleNipcoFlex press section has been adapted for the production of kraftliner to achieve the highest production rates and surface quality levels. The CombiDuoRun dryer section,

including EvoDry steel dryers and an intelligent S&C system, will ensure maximum runnability and energy efficiency. The VariFlex Performance winder incorporating SmoothRun technology will provide consistent quality rolls at maximum operational efficiency.

The long-term efficiency and service agreement between SCA and Voith started in November 2019. With digital applications on the existing PM1 and a full-scale training programme for the paper mill team Voith said a smooth start-up of PM2 will be assured.

"We know about the growing market for paper-based packaging," said Christoph Mueller-Mederer, president of projects in the EMEA region at Voith. "Our intention is to enable our customer to achieve excellent mechanical properties through a customised concept with intelligent controls."

Cheaper raw materials are key for Umka's expansion

s part of an upgrade by Serbia's Umka d.o.o. to almost double cardboard production capacity to more than 200,000 tonnes and change to more economic raw materials the papermaker had equipment from Voith's Blueline portfolio installed.

Part of the project was an upgrade of the stock preparation with an InjectaCell Compact flotation unit and InfiltraDiscfilter disc filter.

Prior to the upgrade, Umka has supplied 30 European countries with cardboard in three quality grades. The increased capacity gives the company, founded in 1939, the opportunity to tap into other markets.

Following increased demand for the bright white recovered paper used by Umka, prices increased, so it turned to more cost-effective raw materials such as newspaper and magazine paper as a source.

Investing in a new stock preparation system was therefore necessary. "Previously, we worked with one loop and without a flotation system, but the planned changes were inconceivable with this arrangement. Our long-term goals could only be realised by



integrating a flotation unit into a second loop," explained Dragoslav Nešković, project leader at Umka.

The Voith team's first task was to extend the existing stock preparation to deal with the new challenges, such as reliably removing contaminants including inks, stickies and glue from the paper suspension. To increase storage capacity of the stock preparation and to separate water loops from paper machine

for improved paper machine performance, a disc filter was

To integrate the new machines into the existing building, Umka selected the CC2/44 InjectaCell Compact flotation unit in combination with an IDF370 InfiltraDiscfilter.

"The compact flotation technology is quite new. However, the feedback from all customers which operate InjectaCell

Compact has always been very positive," says Voith's Dr Antje

The BM1 currently produces about 130,000 tonnes of paper, and Umka is already taking a positive view: "The performance of the InjectaCell Compact and the InfiltraDiscfilters has fully met our expectations. Our employees also appreciate the easy operation and reliability of Voith products," says Nešković.

Coated board machine for GPI's Kalamazoo mill

US-based paper maker Graphic Packaging International (GPI) has ordered a coated board machine from Valmet for its mill at Kalamazoo in Michigan.

"Valmet has offered us innovative yet proven technology to reach our high product quality

targets," says Rusty Miller, senior vice president for engineering and technology at GPI. "We have had a long and good cooperation with Valmet. Our relationship is based on mutual trust, which is very important in large projects like

The board machine will produce coated recycled board (CRB) grades (white line chip board, WLC grades) with a capacity of about 454,000 tonnes a year when it starts up in the first half of 2022. Graphic Packaging International,

based in Atlanta, Georgia, is a

market leader in coated recycled paperboard, coated unbleached kraft paperboard and solid bleached sulphate paperboard. Sales in 2018 were about US\$6 billion. It has more than 70 facilities and 17,000 employees worldwide.

New sales director for Sun Automation

rank Reynolds has been promoted to the position of director of sales at USbased Sun Automation

Reynolds' expanded responsibilities include managing the product development cycle and collaborating cross-functionally

across the Sun organisation to ensure all activities align with bringing value to customers in the cartonboard industry. He will continue report to Greg Jones, global sales and aftermarket chief.

Reynolds has been in the industry for more than 34 years, and has served Sun in many roles in both

the engineering and sales sectors for the past 28 years.

"Although I have a strong engineering background, I've connected deeply with the sales arm of the business. Cultivating relationships with customers and prospects to address their business needs is tremendously fulfilling," said Reynolds.

Greg Jones added: "Frank has unequivocally contributed to SUN's exponential growth for the better part of three decades. He's



Frank Revnolds has been with Sun for 28 years

proven his abilities as an engineer and sales manager, and we look forward to his team leadership."

Fabio Perini SpA moves into new segments

Fabio Perini SpA, the Italian manufacturer of paper making and tissue converting machinery, has appointed Francesco De Luca as general manager of its site at Bologna.

Born in Naples, De Luca (46) has a degree in mechanical engineering with an MBA at Milan's MIP Politecnico. He has worked with many multinationals such as the Metecno Group, the Candy Hoover Group and Norsk Hydro, where he extended his general management experience, working in China, Uzbekistan, Russia, Iran, Syria, Turkey and Egypt.

"Joining Fabio Perini is a stimulating opportunity," said De Luca. "Casmatic is a brand which is still well recognised in its field, and my task will be to lead it into



Francesco De Luca, new general manager of Fabio Perini SpA at

new segments, starting from an accurate analysis of the market, its dynamics and needs."

UK-based Cepac expands its sales network

UK-based independent corrugated packaging producer Cepac has appointed David Alvis as business development manager for its Rawcliffe site. concentrating on Wales and the south west.

Alvis joins from DS Smith, where he spent seven years as area sales manager after graduating from the University of the West of England.

Commenting on his appointment, Alvis said: "Cepac has significant plans for growth



David Alvis will be concentrating on Wales and the south west of

in my area and I have been impressed with the innovative product range and technical knowledge at Rawcliffe to support this objective.

"My family has worked in the corrugated sector for many years and so you could say I have grown up surrounded by boxes."

Nigel Hobson, sales and commercial manager at Cepac, added: "Expanding our sales function is a key element of our strategy, as we focus upon development and growth across the UK. David's industry expertise. combined with his regional knowledge, makes him a valuable addition to the Cepac team."

At Rawcliffe, Cepac specialises in products that include multipoint glued heavyweight products, regular cases, rotary die-cut, flat bed die-cut, stitched boxes, pallet boxes and pre-print boxes.

Brazilian forest product body beefs up taxation skills

Indústria Brasileira de Árvores (IBÁ), which looks after the interest of companies in the Brazilian forest industry, has appointed Maurício Cazati to strengthen the organisation's tax

structure expertise for members.

With debate on tax reform and various claims involving products of the segment, IBÁ realised that this was key way to expand its services. Cazati was for eight years at

Klabin, where he served to guide and plan tax challenges. His experience includes government tax relations and with industry representative associations, such as CNI, Federations of Industries

and IBÁ, where he served as coordinator of the tax and fiscal affairs committee.

He will report to IBÁ president Paulo Hartung, who took up his position in March.

