PULP PAPER & LOGISTICS

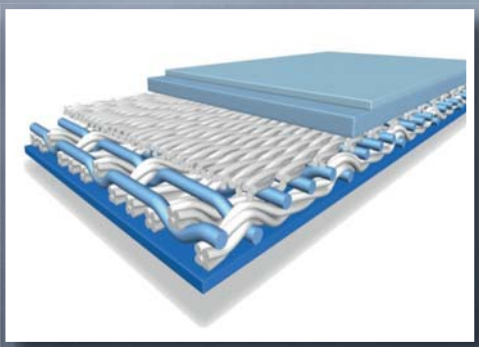
VOLUME 11 NUMBER 55 July/August 2019

ANDRITZ: The perfect fit in fabrics and rolls

Page 16

INDUSTRY NEWS

SOLENIS



HEIMBACH

COMMENT

Welcome to the July-August issue of Pulp Paper & Logistics.

We are really pleased to present some interesting articles from around the world. While companies who contribute these technical articles share first-hand knowledge of specific technologies or applications that have proven to be of benefit to the pulp and paper industry, some readers have argued that these articles just promote the companies involved.

Read them in depth and you'll find they contain some intriguing and often novel approaches to production or processing problems that many will be familiar with.

More to the point, the articles are selected not because of their source but for the value of the information and lessons they convey. Pulp Paper & Logistics is open for submissions from any company in the pulp and paper industry but with these criteria in mind.

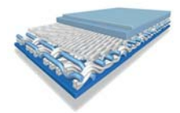
Pulp Paper & Logistics is approaching a major milestone in the form of its sixtieth issue and tenth birthday. Looking back to that first issue it is interesting to see how many companies featured have now been acquired and merged into larger multi nationals. The industry is changing for the better to serve its customers.

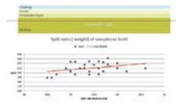
Looking forward to the next issue for September-October, it will include our MIAC 2019 preview news; tissue finishing machinery & equipment and associated technology; data protection at the mill and Industry 4.0 systems safety systems.

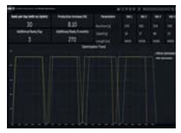
Many say that change is good, that change has to be embraced, and is a continuing opportunity to be exploited. If that's the case, the coming months, with the prospect of the UK leaving Europe – at last, many say – led by new Prime Minister Boris Johnson, there should be plenty of opportunity for the pulp and paper industry to up its game even more.

Vince Maynard
Publisher

IN THIS ISSUE







Vol. 11 Issue No. 55, July/August 2019

ISSN 2045-8622 (PRINT)

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PULP PAPER & LOGISTICS

Pulp and paper industry created 2,000 jobs in Europe last year

Nine new mills and 2,000 more jobs were created in the European pulp and paper industry in 2018 and sales increased by 3 per cent, according to the latest figures from the Confederation of European Paper Industries (CEPI).

Benefiting from a healthy economic environment, CEPI members produced 92.2 million tonnes of paper and board last year, matching the level of production in 2017.

Industry data for 2018 confirms the long-standing trend of increased production in packaging, hygiene and speciality paper sectors while graphic paper continues to decline, following a drop in demand, said CEPI.

Carbon dioxide emissions from operations are steadily falling while the production of paper and board remained stable which, said CEPI, illustrates the significant industry investments in decarbonisation technologies and increased energy efficiency.

"We have demonstrated how the industry is actively taking responsibility in reducing its carbon emissions, as well as playing a leading role in providing bio-based alternatives to carbon-intensive products in our REINVEST 2050 project," CEPI said in a statement.

Exports of paper and board products are growing, especially to North America, with 20.6 million tonnes in total, up by 1.1 per cent compared to 2017. Imports grew by 3.3 per cent. Europe remains a net exporter and is the world's leading exporting region in the world.

CEPI said that the industry's commitment to the circular economy remains stronger than ever. Paper volumes recycled in European mills for reprocessing are on the increase, keeping the fibres longer in the loop.

However, the 2018 recycling rate – the percentage of the paper and board consumption that has been recycled – declined slightly from 72.4 to 71.6 per cent due to trade flows, such as a significant export erosion of paper for recycling (down 6.1 per cent).

"The CEPI 2018 Key Statistic report demonstrates once again that our industry is fast-transforming, creating jobs and believing in its capacity to grow in Europe putting into practice a true circular bio-economy model," said Jori Ringman, newly-appointed CEPI director general.

Other key data in CEPI's statistics for 2018 showed that market pulp production was 14.4m tonnes, up by 1.4 per cent, while pulp consumption was 19.8m tonnes, up 4.5 per cent; paper collected for recycling (PFR) totalled 56.7m tonnes, down 0.3 per cent, while paper utilised was 48.8m tonnes.

UPM closes its PM10 machine at Plattling

Finnish-based paper maker UPM has permanently shut down the PM10 paper machine at its UPM Plattling mill in Germany, in a bid to improve its competitiveness in the paper business. The closure reduced capacity for coated mechanical paper in Europe by 155,000 tonnes.

The mill in Bavaria manufactures graphic papers and until the shutdown had a total annual capacity of 785,000 tonnes and employed about 590 people. Proposals to close the PM10 line were revealed in April.

The line was to be shut down by the middle of July with the loss of 155 jobs. Employee consultation processes have been conducted in line with local legislation and are now finalised, said UPM in a statement. Paper production on the remaining machines will continue at the Plattling mill.

Ruud van den Berg: "we regret the decision"

Commenting on the line closure, Ruud van den Berg, senior vice president for magazines, merchants and office business at UPM Communication Papers, said: "The recent weeks have not been easy for the employees at our Plattling site. We are therefore pleased to have led a constructive and fair consultation process to a conclusion which helps diminish the impact of the closure.

"We regret this decision but remain convinced that it will support the competitiveness of both UPM Communication Papers as well as the remaining assets at the Plattling site in the long run. The discipline and commitment of our employees in Plattling during the process has been remarkable."

Based in Helsinki, UPM has six businesses: in biorefining, energy, speciality papers, communications, Raflatac and plywood, with annual sales of €10.5 billion.

Smurfit Kappa expands its network of recycling plants

A new recycling plant has been opened by Smurfit Kappa in the Tuscan region of Italy, strengthening its recovered paper service.

Smurfit Kappa Marlia will process around 15,000 tonnes of recovered paper a year and this is expected to increase to 25,000 tonnes in 2020. The new plant is strategically located in an area where 60 per cent of Italian containerboard and 90 per cent of tissue paper is produced.

The Marlia depot works closely with the local council, supermarkets and businesses to collect used paper and board which is transported to the Smurfit Kappa Ania Paper Mill in Lucca where it is used as raw material to produce new containerboard.

Commenting on the new facility, general manager Luca Mannori said: "We are delighted to have this new plant up and running, which is further evidence of our ongoing commitment to sustainable development and an important addition to the region."

Henri Vermeulen, vice president of Smurfit Kappa Recovered Paper, added: "Paper recovery is a key part of the circular economy. As part of our Better Planet Packaging initiative we are using our long-term experience in recycling to develop even more sustainable packaging concepts."

Take ownership of your destiny says DS Smith boss

More than 240 delegates, drawn from Members of the Confederation of Paper Industries (CPI), engaged with experts on a range of industry-specific issues at the trade association's Biennial Health, Safety and Industry Conference 2019 held at Kenilworth in the Midlands of England on 9 July.

Designed to encourage discussion and the sharing of best practice, the event focused on health and safety, with a wider industry programme running alongside that included topics such as energy, environmental, diversity and supply chain.

Miles Roberts, group chief executive of DS Smith, set the tone of the conference with an opening keynote address during which he urged the industry to take ownership of its own destiny, to set aside commercial interests and work together on the challenges and opportunities that lie ahead. Reducing carbon emissions and eliminating plastic waste were real challenges that need to be tackled today, and the paper industry was an integral part of the solution and can play a pivotal role in delivering a solution to the benefit of global society, he said.

Martin Temple CBE and chair of the HSE, began his keynote address by congratulating the UK paper industry on its support and commitment to the Paper and Board Industry Advisory Committee (PABIAC) and in achieving continuous and sustained health and safety improvements over the last 15 years.

Launching the next four-year PABIAC Strategy 2019-2023 *'Health, Safety and Wellbeing – Hearts, Minds and People'.* Temple said: "This new PABIAC strategy supports many of the areas in HSE's Helping Great Britain Work Well strategy and Manufacturing sector action plans.

"To help create effective health and safety management and a cultural shift throughout the organisation, this strategy calls for strong leadership, commitment and accountability, from top management and all other levels within the organisation."

Speakers on the main stage addressed all delegates while smaller sessions were held that allowed delegates to dive into topics of particular relevance to their role.

In his closing address, CPI president Richard Coward paid tribute to the tri-partite members of PABIAC, and especially CPI's Andy Braund, for his many years of service and tireless promotion of improving the industries' health and safety performance.

Commenting on broader issues facing the industry, Coward continued: "As an industry, we must continually make the case for paper as a responsible partner, with products and processes that are environmentally and socially sustainable. Paper is a key player in the bio-economy, recycling and circular economy debates. And so it should be; its inherent renewability is a great attribute not shared by many other materials."

Andy Braund, CPI director of health and safety, summed up by commenting: "With so many issues of importance at the forefront of people's minds, we set out to deliver a conference that would attract delegates from all levels of the industry and to put delegates in touch with the regulators and policy makers. This year's conference attracted more delegates and exhibitors than ever before and is a testament to the work of CPI on behalf of its members and the support shown by the industry.

"As the industry enters a new era in health and safety, with a greater focus on work-related ill health and mental health, the new PABIAC strategy with leadership, collaboration and engagement as a key objective, is essential in delivering the next phase of the UK's Paper-based Industries' continuous health and safety improvement programme."

Main sponsors of the event were Hyster Europe (www.hyster.com) and Pilz Automation Technology (www.pilz.co.uk).

Member of Parliament visits DS Smith's Kettering plant

UK-based paper and packaging manufacturer DS Smith hosted a visit by Member of Parliament Philip Hollobone to its Kettering packaging facility in July.

The visit provided Mr Hollobone with insight into the role DS Smith plays in the packaging industry and the opportunity to talk sustainable solutions with the industry experts.

DS Smith employs 69 people at its facility in Kettering, which takes in reels of paper and produces cardboard sheets to be used as boxes.

As the newly announced 11th Global Partner of the Ellen MacArthur Foundation, DS Smith's management spoke about its significant product offering, business model and sustainability agenda, focussing on packaging trends including the rise of eCommerce.

This focus on sustainability is being driven across all sites managed by the FTSE 100 listed company. Experts from DS Smith, including Kettering plant manager Graham Coles, focused on the opportunities for sustainable design with cardboard and the opportunities to substitute plastic with paper-based packaging.

Mr Hollobone said: "I found my visit to DS Smith's Kettering site really thought-provoking. I commend DS Smith for sharing its insight into sustainable packaging solutions, its approach to the circular economy and the recycling challenges in the UK. It's imperative now that government, local councils and businesses work together to tackle these issues head on."

MP Philip Hollobone (right) and UK government waste representatives (above) visited DS Smith operations in May and June

Peter Clayson, DS Smith's head of government and community affairs, said: "We welcome the opportunity to work closely with the government in connection with resources and waste strategy that will directly impact our industry. At DS Smith we have a purpose of redefining packaging for a changing world, helping communities to continue to thrive in this rapidly changing environment. By sharing our expertise with local MPs, we can inform legislation as it is created to enable a more sustainable future for consumers and the environment."

DS Smith presented new research to Mr Hollobone, highlighting the 1.5 million tonnes of plastic that could be replaced by fibre-based products each year from just five areas within supermarkets across Europe. The company also shared recommendations to combat the UK's Recycling Tipping Point which will lead the UK to miss its recycling targets by more than a decade. Recommendations include the appointment of a recycling minister and prioritising waste separation.

The visit to Kettering followed a tour of DS Smith's Kemsley Paper Mill in May by DEFRA's Resources & Waste Team. The mill in Kent, in south east England, reprocesses up to 30 per cent of the UK's recycled paper and card feedstock, producing more than 825,000 tonnes a year of paper.

Sales at DS Smith for the half year to the end of April were £6.17 billion (US$7.5bn), up 12 per cent on the same period a year earlier. Pre-tax profit was up 35 per cent at £350m ($426m).

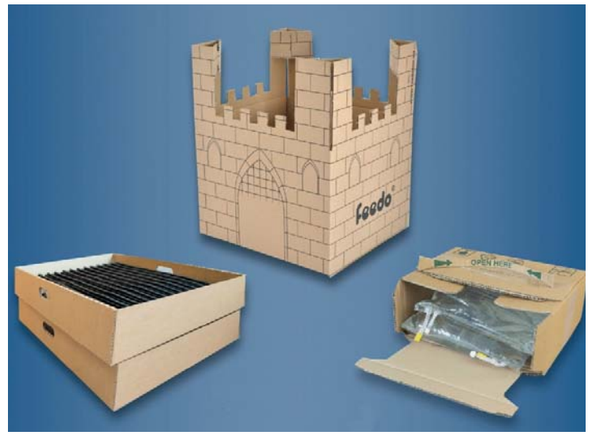
Awards for Smurfit Kappa at the WorldStars

Smurfit Kappa has won three awards for innovative and sustainable packaging at the 2019 WorldStar Awards.

The first product was for a life-saving dialysis kit. 'Not a Drop Wasted' is a secure but easily opened pack with rounded corners to protect the 5-litre bags of dialysis solution.

The second winning product was the stand-out 'Cardboard Castle' toy box for use in the eCommerce sector. The toy is shipped in an attractive box which can then be quickly turned into a castle creating an enhanced consumer experience.

Smurfit Kappa picked up the third award for its 'Packed like Sardines' automotive pack which hides an easy-assembling insert inside and eliminates the need for plastic. The packaging leader has seen a growing number of customers seeking to substitute non-recyclable materials with sustainable alternatives from its Better Planet Packaging portfolio.



Commenting on the win, Zdeněk Suchitra, chief executive of Smurfit Kappa Czech Republic & Slovakia, said: "We are delighted and honoured to have been recognised in these prestigious awards.

"We work with customers from many different sectors to come up with sustainable packaging that will deliver against a number of briefs. I'm proud of the talented and creative people behind these products."

Jan Kaprhál, Smurfit Kappa's innovation & marketing manager, added: "As a leading supplier of sustainable packaging solutions we are committed to bringing both innovation and added value to our customers and their businesses."

The annual WorldStar awards are organised by the World Packaging Organisation. This year's awards attracted 319 entries from 34 countries.

- Smurfit Kappa has won the 'Cool Vendor' and 'Sustainability' awards at the 2019 Deliver event in Lisbon. Deliver is the biggest eCommerce logistics event in Europe. At the annual event, Smurfit Kappa had the opportunity to demonstrate how its eSmart proposition improves all aspects of eLogistics from packing line to supply chain, through to the customer experience. It also won two of the five awards.

Expansion into US for DS Smith

DS Smith has opened an office in Atlanta, Georgia, as part of its expansion in North America.

The company believes its momentum in environmental and sustainability stewardship in Europe offers a launchpad for growth in North America, and comes at a time when consumers seek more options for sustainable packaging.

"We've always thrived on finding innovative ways to help customers achieve more for less – sell more, reduce costs, manage risk and complexity in their supply chain," said Miles Roberts, global chief executive of DS Smith.

Miles Roberts, group chief executive of DS Smith: has set up base in Atlanta

"For years, we've helped companies across industries – from pharma and consumer packaged goods to retail and eCommerce – to redefine packaging across the world, and this expansion marks a key milestone in our journey to bring our innovative business model to the US."

The Atlanta facility will serve more than 50 employees in DS Smith's sales, marketing, finance, legal and technical departments. The company also plans to open its first recycling depot in the near future.

Jim Morgan, chief executive of DS Smith North America, said: "We see a major opportunity to redefine packaging for the US using our closed-loop system and heritage as a leading innovator in Europe. Our new Atlanta headquarters will help us with that effort."

Five wins for Saica at the Starpack Awards

Saica Pack is celebrating after receiving five trophies at the recent annual Starpack Industry Awards.

The corrugated cardboard packaging specialist was recognised for its innovative designs created for a wide range of clients.

David Wilbraham, sales, commercial & marketing chief at Saica Pack, commented: "At Saica Pack we work day after day to develop corrugated cardboard packaging solutions to meet our clients' needs. We are proud to have had this work recognised with five highly-respected Starpack Awards.

"The awards represent the creativity and talent of Saica Pack's design teams and we are delighted to showcase the innovation taking place within the corrugated packaging sector."

For its consumer-facing designs, Saica Pack received three trophies across food and drink categories.

The company picked up silver for a novel carrier designed for Small Beer Brew Co. The corrugated cardboard carrier enabled the brewer to launch a six-bottle pack. Judges praised the packaging for its "classy execution" adding "it introduces a new carrier system into the marketplace." The product was designed by Elena Garcia Castro from Saica Pack South West.

An eye-catching design for quail egg company Cackleberry Farm received bronze. The box, which holds 12 eggs, has been well received on social media and by chefs with judges also commenting: "An attractive pack for a high end product." Elena Garcia Castro also designed this packaging.

Starpack award winners (right to left) Colin Savage, Saica Pack account manager, and Dave Powell, Saica Pack NDC manager UK & Ireland, receive their trophies from an unidentified Starpack presenter

The judges also praised Saica Pack's Brewdog Advent Calendar, awarding it bronze. The design, which has doors that can be opened to reveal Brewdog cans or bottles of beer, was honoured for being "a good gift presentation for the advent season. Well designed for its distribution channel". The packaging was created by Kevin O'Neil based at Saica Pack Scotland.

In the business category, Saica Pack won bronze for a shelf-ready packaging design for Kilmeaden Cheese. The fully recyclable pack securely holds and displays cheese packs and was selected by judges because it "shows a thoughtful progression from the use of plastic to a single material pack". It was created by Saica Pack's Ireland design team, led by Sean Gibney.

The final award was in the transit category and honoured packaging designed to store and transport fragile but heavy street-lighting units. Designed for Thorn CiviTEC, the corrugated design has streamlined the firm's assembly lines by around a third and is fully recyclable. Judges said it was a "good solid design with some very clever features", adding that it "uses single board in a very constructive way". The packaging was designed by Ken Dunne, Abi Mountain and Charlotte Hall from Saica Pack North East.

Saica is a leading player in Europe with the development and production of recycled paper for corrugated cardboard, and production of 3.3 million tons a year.

Metsä Board's Better for Less Design Challenge judges revealed


Alissa Demorest


Andrew Gibbs


Charles Ng

Metsä Board has revealed the judges for its second Better with Less Design Challenge.

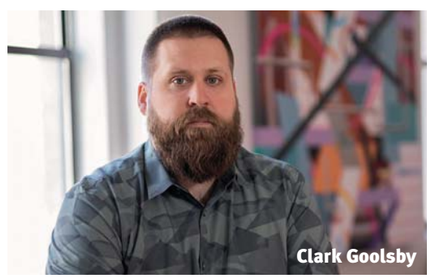
Last year more than 300 packaging designs were entered for the competition by students and professional packaging practitioners from 38 countries to showcase their environmentally-friendly ideas.

This year, the Better with Less Design Challenge will again have a world-class jury of renowned packaging design and branding experts:

- Alissa Demorest, editor in chief of luxury packaging magazine Formes de Luxe, has extensive experience in the luxury-goods sector from both a brand and supplier perspective.
- Andrew Gibbs, founder, chief executive and editor in chief of Dieline has been called an "innovator in the world of design".
- Charles Ng, founder and chief brand consultant of MCL Group Hong Kong/China, takes a holistic approach of brand design from brand auditing, brand analysis to brand strategy that provides creative works covering packaging, graphics, products, spatial and retail.
- Clark Goolsby, chief creative officer of Chase Design Group, emphasises the value of design, and the lasting cultural and financial impact it can have for products and organizations.
- Stefan Junge, professor in packaging technology at Beuth University of Applied Sciences Berlin, has more than 20 years of experience in the field of packaging technology, having for example held the position of corporate packaging manager at Sika and a number of positions at Nestlé.

Competition jury chairman Ilkka Harju, packaging services director for the EMEA and APAC regions at Metsä Board, said "We are excited to have this multi-talented international jury of renowned packaging design experts involved in the Better with Less Design Challenge. Together we want to encourage packaging designers all over the world to create new, more environmentally-friendly solutions for everyday packaging."

Full details of the awards 2019-2020 will be announced in September.


Clark Goolsby


Stefan Junge

Mondi Belcoat acquired by Walki Group

Finland-based Walki Group has agreed to acquire Mondi Belcoat NV, a Belgian extrusion-coating company that is part of the Mondi Group.

Belcoat produces highly-specialised extrusion-coated products serving customers across protective clothing, imaging, automotive and other speciality products markets. Belcoat is operating a manufacturing facility in Duffel, Belgium and employs just over 100 staff. In 2018, Belcoat had annual sales of €37 million. Terms of the deal were not disclosed.

"This acquisition is in line with our strategy to expand our customer base and to strengthen our position in highly specialised engineered materials," says Leif Frilund, chief executive of Walki.

The deal remains subject to competition clearance and other customary closing conditions and is expected to be completed in the second half of 2019.

Report highlights that pace and politics are influencing colour trends

In just a decade the biggest driver of colour trends for branding and packaging has moved from fashion to social media, according to designers, with technology predicted to become the biggest influence by 2030.

This rapid pace of change has been identified by 500 designers who were questioned by industry experts, customers and fellow creatives on what determines colour trends today.

The Progressive Palettes Report from specialist papermaker James Cropper, found that just ten years ago designers considered fashion to be the key driver of colour trends, but today they say social media is now the driving force.

Looking to the future, 30 per cent of designers predict that technology will be the foremost influencer within a decade.

Phil Wild, chief executive of James Cropper, said: "What can't be overlooked is the pace at which influence changes when it comes to colour, or the impact of external factors such as politics or an increased consciousness of the environment.

"The industry has so far successfully shifted on its axis to stay ahead of the game, whether it be through design, methods of bespoke colour creation, sustainable materials or manufacturing processes. To keep momentum, it's essential we continue to invest and innovate."

Mark Starrs, master colour blender at James Cropper added: "The narratives expressed by the design community, in our experience, are spot on. Palettes are now progressive, political, environmental, and as ever, personal."

The research also revealed that for the majority of designers (80 per cent), consumer desire for individuality and personalisation is having a significant impact on the colour choices brands are making today.

Starrs continued: "Brands are using personalisation to connect to consumers and attach more meaning to their product or offering. Whether it's monogramming at the point of purchase or tailoring colour on demand, there are more bespoke options than ever before. Our colour lab holds around 4,000 live shades that can be produced with some 200,000 colours stored electronically in our database, so we create almost any colour. We've had designers come to us with jewellery, wedding dresses, leaves and even a skirting board for us to colour match – and it's entirely possible.

"It doesn't stop at colour. Paper and packaging can be entirely bespoke too, from the individual fibres selected to create a paper recipe to the ways they're engineered, coloured, converted and embossed. The creative possibilities are endless, enabling us to take our bespoke solutions to the next level."

Phil Wild concluded: "We work with a multitude of designers directly, but the nature of our business means that we don't always get the opportunity to talk to every creative that uses our product; which is why we've invested in asking the design community for their opinions. To hear directly from them on what is driving colour trends now and in the future, along with insights on how the landscape is changing is invaluable and industry-defining. We'll be sharing our extensive findings over the coming months, exploring topics in greater detail."

James Cropper's Progressive Palettes Report will be free when released at the LuxePack Monaco show in October 2019, as well as being available to pre-order from May 2019.

Pulp Paper & Logistics

Formulation is a key driver for sustainable paper packaging

Made with Solenis Barrier Coatings technology

The replacement of plastics used as barriers in paper packaging will provide environmentally-friendly fibre-based materials for packaging. Ricardo De Genova explains how

As interest groups raise awareness about plastic waste, governments around the world are starting to ban various types of plastics, especially single-use packaging items. We all know the reasons behind this push: Plastic waste is filling our landfills and waterways and breaks down very slowly in the environment.

Ultimately, the impact will not be confined to items such as grocery bags and straws. Analysts expect the movement to extend to plastic bottles, disposable cups, food-service packaging and ready-meal containers. In fact, several major consumer brands, as well as a significant number of European retailers, have moved to reduce or eliminate their use of plastics in packaging. And more will certainly follow.

Renewed focus on paper materials

In this new paradigm, the pulp and paper industry has an opportunity to rise to the challenge of providing more environmentally-friendly fibre-based solutions to replace all those plastic straws, bottles, disposable cups and food containers.

But before that happens, it's important to address

> In this new paradigm, the pulp and paper industry has an opportunity to rise to the challenge of providing more environmentally-friendly fibre-based solutions to replace all those plastic straws, bottles, disposable cups and food containers.

the foundational aspects of packaging production that will enable these products to be replaced with environmentally-friendly alternatives, especially in food applications.

The enabling technologies

Almost anything, of course, is technically recyclable, at a cost. But what makes a paper package most valuable in this new world is whether a material is repulpable. To this end, the goal is to replace paraffin wax or polyethylene (PE), fluorocarbon for grease barriers and the use of PE in cups and food-service applications.

To achieve this goal, special formulations are required for paper packaging that act as a barrier to water, hot/cold liquids, greases and oils, moisture and water vapour – to name just a few. Suitable replacement formulations include barrier biowaxes used for various applications. Individual barrier products can also form a 'system' consisting of one to three different coatings, each having different functions, with the final system design depending on the end producer's requirements.

As the packaging industry moves toward fibre-based material for more sustainable solutions, there are some key issues to consider when it comes to paper material formulation.

Is it repulpable? Repulpability enables creation of a segregation system for post-consumer cups that can be repulped, where the fibre is recovered and reused to produce paper and paperboard products, perhaps even back into cups. The value of the fibre in these cups is very high, enough to make it economically feasible to develop the infrastructure needed to collect, segregate and recover these containers after use. Therefore, the barrier formulation should enable repulpability. This is not typically economically viable with PE-coated cups.

Is it compostable? The long-term objective, of course, is to recover the fibre. In the short term, if the material can be redirected to composting facilities – as opposed to landfills – this helps with consumer messaging and is a step forward for brand owners and the environment as well. As a result, fibre materials with compostable barrier formulations have a significant advantage over PE products, which cannot be composted. However, this is still secondary to repulpability.

How is the formulation produced? This is a key point on sustainable sourcing,

Ricardo De Genova is vice president of strategic marketing and R&D for Paper at Solenis, a leading global producer of speciality chemicals used in pulp and paper production, among other industries

where many consumer brand owners have aspirational goals of using more than 50 per cent sustainably-sourced raw materials. Manufacturers of paper barrier coating formulations are seeking to minimise non-fossil fuel derived components and maximise renewably sourced raw materials. Some barrier solutions for example are 100 per cent non-fossil based.

Is the barrier formulation functional? Barrier formulations must meet the functional requirements of the material being replaced. These requirements include resistance to oil, grease and water in applications like hamburger wrap, and resistance to staining for on-the-go coffee cups. Many paper-based packages are designed for consumer appeal and branding, and involve printing, sealing, gluing, flexibility and elasticity. As a result, paper barrier formulations must still allow the same packaging functionality while meeting sustainability goals.

Does the formulation facilitate manufacturing? One of the biggest advantages with some barrier-coating formulations is that you can apply them using paper machine coaters, off-machine coaters or even flexo/reverse gravure printing presses. With some barrier coatings you can even convert the coated board into cups on existing cup-making machines designed to work with PE. As a result, very little capital expenditure is required to utilise these barrier systems; paper manufacturers can run them now if they have a coater.

The good news is that awareness of fibre as a functional packaging alternative continues to gain ground. For example, in the Next Gen Cup Challenge, a global consortium that includes major food industry players recently issued a challenge to "identify and commercialise existing and future solutions for the single-use, hot and cold fibre cup system". Solutions could include cup lids, sleeves and straws, as well as reusable and alternative delivery systems. Nearly 500 entrepreneurs, inventors and scientists from more than 50 countries, including a team from Solenis, responded enthusiastically with ideas and potential solutions. Solenis was recognised as one of 12 final winners and work to scale its proposed solution is under way.

Working together, the paper industry can make a difference in reducing plastic waste in the environment and supporting the circular economy in 2019 and beyond.

Hydraulic marks in paper need no longer be an issue

Specialised felts with longer flow paths for water have the capability of minimising shadow marks on paper. PPL reports on new developments with Heinbach's Atrojet felt

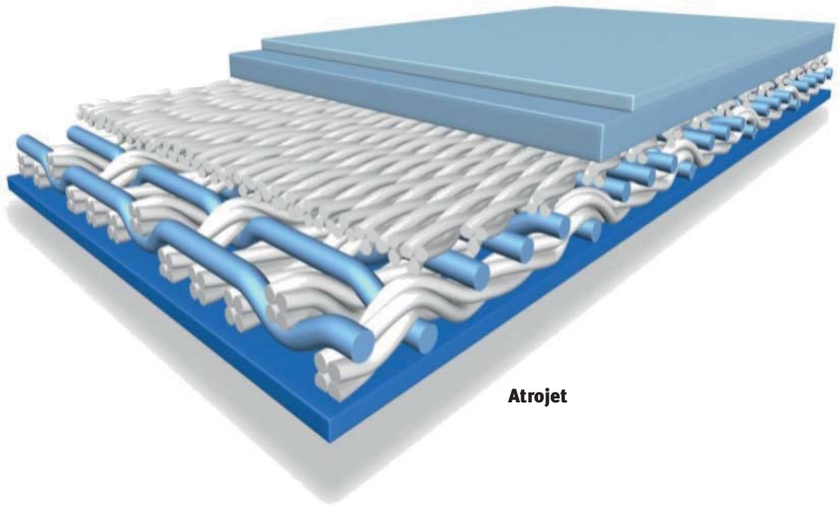
If there is too little void volume for the water pressed out in the nip, disturbing hydraulic marks may occur in the paper. Due to the periodic structure of base fabrics, grooves and drilled holes, the resulting marks are periodic as well and can therefore be investigated and identified relatively easy by means of an FFT Analysis (Fast Fourier Transformation).

Hydraulic groove marks can also occur if the groove pattern of the roll is unfavourably designed. As soon as the pressed-out water starts to flow into the grooves the hydraulic pressure in the press nip decreases. The greater the width of the land area the higher is the hydraulic pressure above the land area, as shown in Figure 1. The reason for this is the longer flow path of the water. If the hydraulic pressure is too high hydraulic groove marks may occur in the paper. Therefore the width of the land area should be as narrow as possible.

In the same way shadow marks can occur in the case of blind-drilled rolls and suction press rolls.

Shadow marks, as illustrated in Photo 1, occur if the hydraulic pressure between the drilled holes of a roll cover is much higher than above the holes. As a result, the water flows at a high speed towards the holes and can disturb the structure of the paper web. Thus opacity and penetration properties of the paper are affected.

In the worst case the disturbance of the opacity results in shadow marks. Often shadow marks are not visible until the paper gets coated or printed. Larger hole diameters result in higher



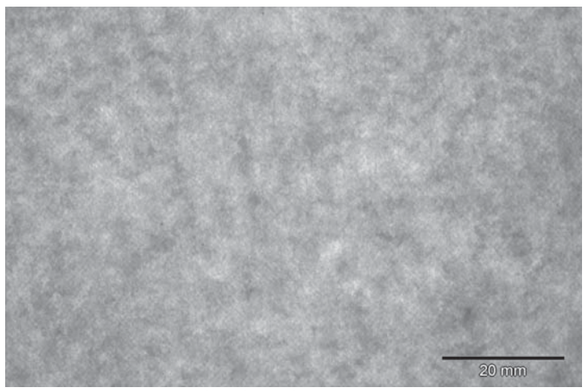


Photo 1: Paper sample with disturbing shadow marks (transmitted light image)

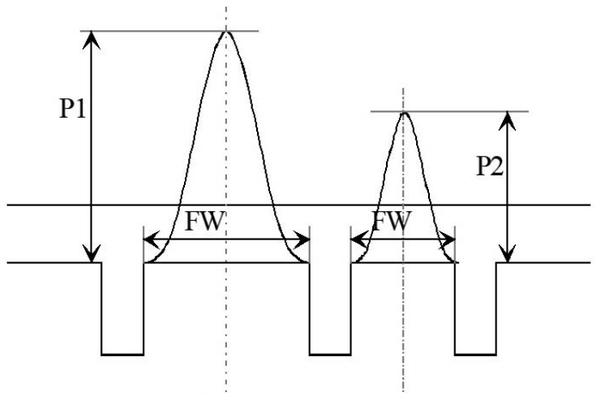


Figure 1: Grooved roll: The wider the land area, the higher the pressure above (longer flow path of the water)

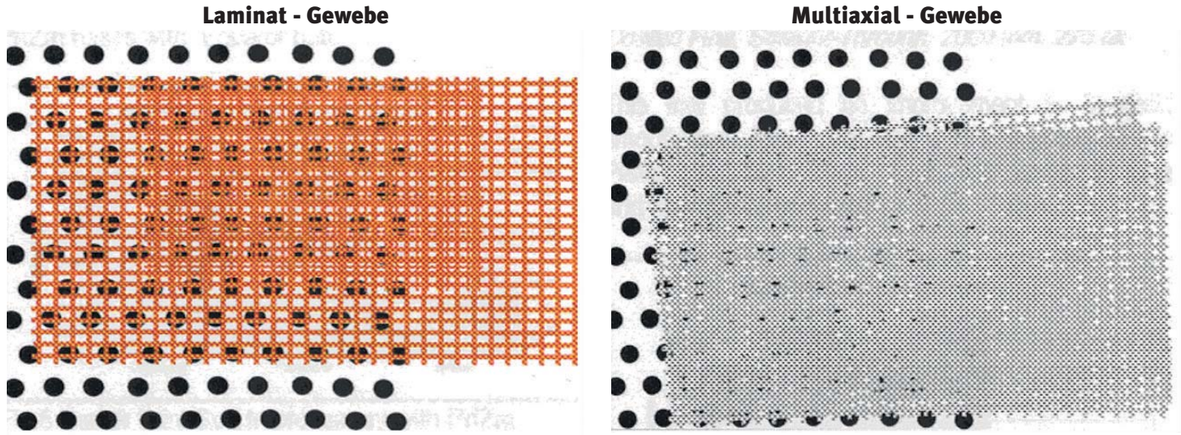


Figure 2: Improved covering of suction holes by an Atrojet base design.

throughput than smaller ones. Therefore large holes lead to higher water flow speeds than smaller ones and cause shadow marks to be much more likely.

Felt designs that reduce hydraulic marks

The appearance of hydraulic marks can be influenced by using suitable felt designs. Practical experience shows that Atrojet felts, due to their multi-axial non-woven structure, are excellent diffusors and are able to reduce hydraulic problems effectively.

Particularly for speciality paper grades, where flawless paper is especially important, Atrojet felts improve the paper quality significantly, as shown in Figure 2 and Photo 2.

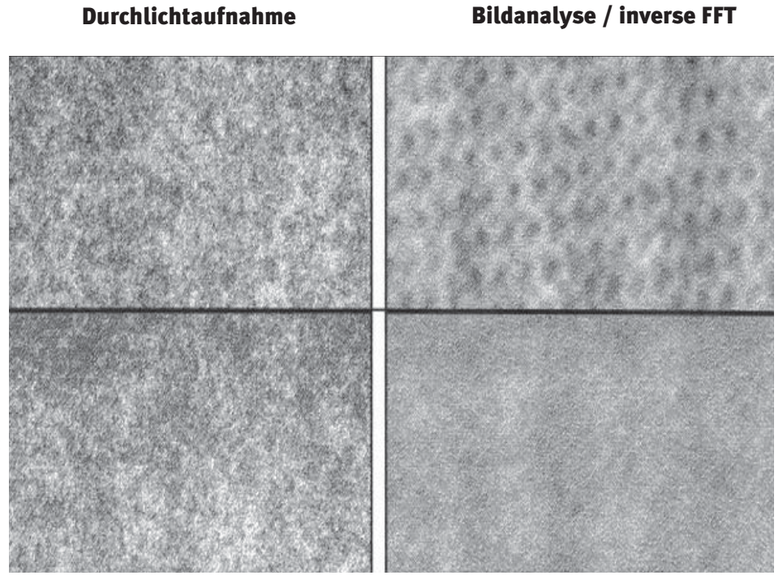
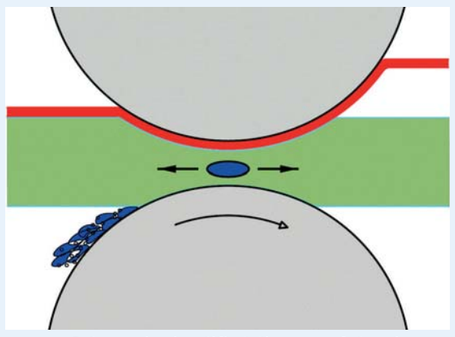


Photo 2: Significantly improved quality by using an Atrojet for producing a coating base paper grade

Press felts under pressure

In the press section the felt and the paper sheet are compressed. First the air is extracted until the felt/paper entity is 100 per cent water saturated. Then water is expelled, first from the felt because the flow resistance here is less than in the paper. The paper is pressurised. The differential pressure, that is, higher pressure above the land area than in the groove, ensures that water is 'pressed out' of the paper and starts to flow. Initially the water flows against the running direction and, in doing so, has to overcome the flow resistance of the felt, so that the hydraulic pressure in the press nip rises again. The pressure of the felt to the paper can cause crushing, hydraulic marks such as shadow, groove and felt marks, and it can create vibrations and even felt bursts.



Schematic simplified diagram of the nip

Pulp Paper & Logistics

The perfect fit in fabrics and rolls

Following the acquisition last year of the Xerium business, the global supplier of wear parts for the paper, board and tissue industries is being fully integrated into ANDRITZ and will operate under the name ANDRITZ Fabrics and Rolls. PPL reports

ANDRITZ made one of its largest-ever acquisitions when it bought Xerium Technologies in October 2018. As anyone working and operating in the pulp and paper industries will know, the name Xerium is synonymous with high-quality consumables used in the paper, board, and tissue industries.

It is also a well-known supplier to pulp drying plants around the world. In fact, for ANDRITZ and its vast portfolio of superior technology supplying all those industries above, it is the perfect fit.

Wolfgang Leitner, president and chief executive of ANDRITZ, was clearly delighted with the acquisition, commenting: "With Xerium, we acquired a high-tech global supplier providing essential services and wear parts to the paper industry. The acquisition fits squarely with our long-term strategy to execute complementary acquisitions and to grow our aftermarket business with its stable source of revenue and earnings."

This acquisition is indeed a perfect fit for ANDRITZ, but also for Xerium and its products, as it now has full access to extensive machine building and process know-how, which will be a valuable factor in the further development of its staple consumables, paper machine clothing, and rolls. Xerium will be fully integrated into the ANDRITZ group this year and joins with the existing ANDRITZ Kufferath to operate under the name ANDRITZ Fabrics and Rolls.

Mark Staton, chief executive of Xerium and head of the new ANDRITZ Fabrics and Rolls division, describes what the new ownership means: "We are now part of a true global leader in the pulp and paper sector, which will help us develop our products and business based on a much broader range of opportunities. There were alternative possible acquirers, but none was more attractive in terms of a true fit for the business.

"Xerium has been run as a safety focused, results orientated and innovative company that is committed to delivering best-in-class products and services to customers. The wish is that, when history is written, this acquisition will be seen as one of the most important and valuable in the evolution of ANDRITZ."

Xerium brings to ANDRITZ an extensive global footprint of 29 manufacturing facilities in 13 countries and is strategically located in the major paper-producing regions of North America, Europe, Latin America, and Asia-Pacific.

The R&D center in Gloggnitz also houses its own laboratory. Research projects, investigations, analysis, and tests are regularly carried out to continually improve the quality and efficiency of the press felts.

Making full use of the combined presence

The products the company makes play an essential role in the paper production process as they are right at the heart of enhancing quality and therefore enable its customers to differentiate their products in a competitive marketplace.

Staton continues: "Xerium adds a full range of fabric and felt solutions as a market-leading supplier in paper machine clothing, as well as a true global manufacturing platform. It also brings a position of global leadership for roll covers again on a fully developed operating platform.

"By making full use of our combined presence in the industry and our joint network of talented sales professionals, we should be able to create new opportunities for sales and growth. Also, the availability of the TIAC pilot plant will support our development effort and help us ensure that ANDRITZ Fabrics and Rolls is at the forefront of delivering customer value with best performing products."

> We are now part of a true global leader in the pulp and paper sector, which will help us develop our products and business based on a much broader range of opportunities. There were alternative possible acquirers, but none was more attractive in terms of a true fit for the business.

ANDRITZ Pulp & Paper's service business has been growing well over the last 10 years. Dietmar Heinisser, division manager in the

July/August 2019

Aerial view of the former Xerium production facilities at Gloggnitz, Austria

Pulp & Paper Service segment, and board member of Xerium, was involved in the acquisition process and works closely with ANDRITZ Fabrics and Rolls.

"While we have achieved a leading position for service in almost all pulp and paper process areas, we saw further growth potential in the paper machines segment," Heinisser says. "Xerium is one of the market leaders in this area and complements our range of products and services very well.

"We will continue to provide added-value services and deliver best-in-class products but of course we will also combine our sales and service network globally so that we are able to be close to our customers and provide proactive and fast service. Furthermore, we will combine our product portfolio in a way to be able to deliver tailor-made concepts for our customers, in particular IIoT solutions where ANDRITZ and Xerium fit together perfectly."

Gloggnitz: the largest press felt plant in the world

One of the largest technology and manufacturing centres that forms part of the Xerium acquisition is the site at Gloggnitz in Austria which is, by coincidence, close to the ANDRITZ headquarters in Graz. The site is the largest plant in the world for the manufacture of press felts and fabrics, most notably the well-known industry brand Huyck.Wangner.

The site at Gloggnitz has a long history and 200 years of experience in the production of fabrics, starting out in 1812 by producing the Fez; felt hats worn in the Orient, the Balkans, and the Ottoman Empire. In 1874, it started making the first press felts for the paper industry and has since dramatically evolved its portfolio into dryer fabrics for the paper industry as well as engineered fabrics for pulp dewatering and sludge dewatering. The site also makes products for the fibre cement industry as well as for the leather and laundry industries.

Helmut Müller, vice president for operations – Clothing EMEA, says, "We have a huge history of supplying the pulp and paper industries from this site at Gloggnitz. We have excellent, highly skilled staff of around 500 people who have a lot of years of experience combined, and who are our best guarantee of good quality products. On the other hand, this plant is the most modern in the world with the most modern machines, equipment, and technology available on the market."

The plant at Gloggnitz produces about 1,500 tons of finished goods, and everything is examined closely for final quality. Müller says: "It all begins with the incoming raw material that is intensely examined in our own laboratory. Once we have established that the raw material is exactly what we need for the final product, we produce our fabrics with each step in the production area being controlled and monitored by our specialist quality inspection team.

"We have a huge history of supplying the pulp and paper industries from this site at Gloggnitz," says Helmut Müller

"There were alternative possible acquirers, but none was more attractive in terms of a true fit for the business," says Mark Staton, chief executive of Xerium

"Xerium is one of the market leaders in this area and complements our range of products and services very well," says Dietmar Heinnisser, division manager at ANDRITZ Pulp and Paper

IIoT – bringing best-in-class solutions

Big data analytics and IIoT technologies have become instrumental tools for Xerium in its work to maximise efficiencies and lifetimes of paper machine clothing. One of its latest innovations is the development of SMART Technology, which provides the first continuous pressure-sensing paper machine roll.

Heinisser explains: "One huge advantage we have is our tissue pilot plant in Graz – the TIAC. With the know-how of Xerium on the fabric side, together with ANDRITZ's paper machine knowledge and research facilities, we will be able to develop the best-in-class products where the customer can really benefit. ANDRITZ expects to quickly be in the position to offer more valuable IIoT solutions across the paper, board, and tissue industries."

This combined knowledge, as well extensive experience will provide a real boost to customers' long-term performance.

Xerium has always provided tailored solutions, designed to optimise performance and reduce running costs on its customers' machines. "Our new future with ANDRITZ in Gloggnitz is really exciting," concludes Müller. "This is the first time in our history that we have been associated with a producer of machinery and technology that actually uses our products on its machines. This is a big advantage for us and for our customers, as we can develop new products and technologies alongside ANDRITZ that will push the boundaries of quality and efficiency."

Production of a press felt in Gloggnitz

Twisting

In the twisting department, identical or different strands of thread are twisted together to form yarn. For press-felt base fabrics, yarns with combinations of multifilament and monofilament strands are used. This makes it possible to create a product with characteristics that exactly meet the customer's specifications, for instance, better paper quality, higher dry content, stable runnability, etc.

Weaving preparation / weaving

During weaving preparation, the yarns and threads are made into 'warp' and 'weft'. The warp runs through the weaving machine longitudinally; the weft is fed in laterally. Yarns or threads are spooled by means of sectional warpers. The number, length, and tension of the threads are predefined for each disc. These discs are combined to form a warp beam and inserted into the weaving machine. As many as 100,000 warp threads are pulled into the machine per warp.

Burling / joining department

Following weaving, a 100 per cent quality inspection is carried out in the burling department. Any defects that may have occurred during weaving are removed or rectified. Flat-woven base fabrics are made endless in the joining department on seaming machines.

Batt preparation / production

In the batt preparation department, the fibers, which have been compressed into bales, are opened for the ensuing carding procedure. By means of this opening and mixing of fibers that have different material properties or degrees of fineness, a homogeneous mixture of fibres is obtained, which is then needled to a stable batt on the needle loom.

Needling department

Before needling, the fabric is heatset (exposed to temperature and tension) on the heat setting machine for the first time. Then, the pre-needled fiberweb is needled into the base fabric on modern needle machines with multiple needle boards. The special felt needles used for this have barbs pointing towards the tip on their three-edged front. When the needle enters the batt, the barbs fill up with fibres and transport them through the base fabric. After several passes on the needling machine, the felt attains the necessary density and the fibers are sufficiently embedded in the fabric.

Heat setting / finishing machine

The needled felts from the needling department are once again placed on the heat setting machine. There the felt is finished for the end-user in a thermal-hydraulic process, i.e., it is washed, pre-compacted and, if necessary, impregnated against impurities. The felts are heat-set, cut to size, the edges are sealed, and a trade line is applied to facilitate correct installation into the paper machine.

Final inspection

The final inspection is the last stage in the Huyck.Wangner Austria Quality Assurance Organization and ISO 9001. Since every component has been stringently checked during the entire process, the final inspection of the completed felt focuses not only on product-specific components, but also on position-related demands. This guarantees a high standard of quality as well as excellent reproducibility.

Process measurements that lead to quality improvement

The optimisation of quality and the saving of energy on high-speed board machines has been achieved at Cristini by using integrated on-line microwave sensors clusters. Luca Canali* explains

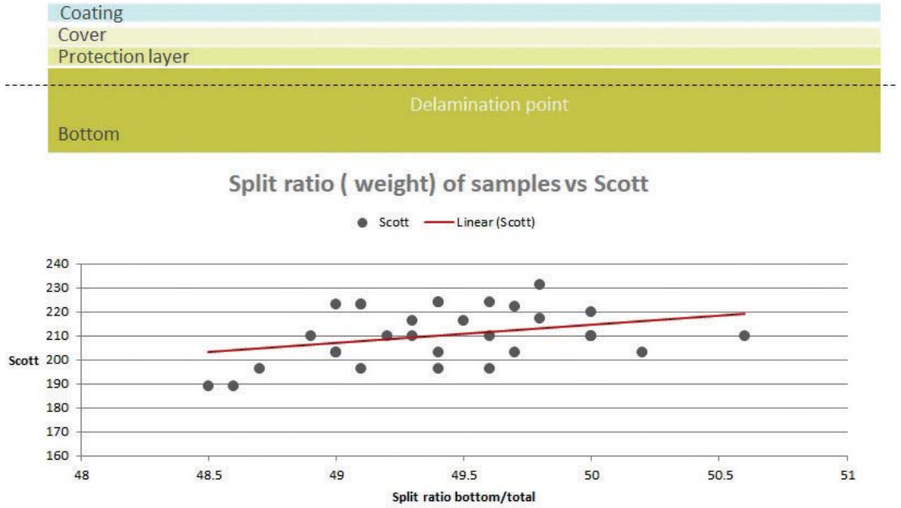


Figure 1 – Cristini's microwave sensor cluster layout

With many mills having successfully implemented Cristini microwave meters, others are now deciding to invest in the measuring system, aiming for superior board quality by the control of the web consistency in the forming section and the exit of the press section.

As a computer cluster, the measuring system can be seen as a set of tightly-connected sensors that work together so that, in many aspects, they can be viewed as a single system.

It is well known that the rate of water removal in the forming section, as well as the direction of the water removal, will affect the distribution of the fines in the z-direction of the sheet. Quantifying that rate is not an easy task without the proper measuring tools.

Real time data from microwave gauges are used as a source of cost savings in the forming section. Vacuum is an important factor in the forming section of a paper machine as it is a huge component in the mill energy equation. Continuous control of sheet dryness is the major task in order to optimise the energy consumption.

In board machines, the dewatering distribution inside each individual ply has a direct impact on the quality of the final product. Optimum conditions at the top formers and bonding lead to better fibre distribution and cohesion.

Application based on the microwave technology

FiberScan and SmartScan are highly accurate, on-line microwave metres, that are non-radioactive, easy to install, and are used for measuring consistency and water mass on paper and pulp machines.

The system is based on a patented microwave technology and algorithm which enable precise consistency measurements of the paper thickness, up to 64mm (or 64.000gsm). The proprietary measuring process allows the output of conductivity measured by the sensors. The reduced sensor dimensions make measurements in extremely confined spaces and harsh conditions possible.

SmartScan, featuring a dedicated cooling system, can perform accurately even in the dryer section, withstanding an air temperature up to 95 deg C.

The system makes it easier to evaluate machine and/or process changes in real time as operators can view changes instantly on the DCS/QCS screens.

Improving product quality

The direct measurement of water on the wire and the web provides visibility of drainage rates and the effects of stock preparation (raw material quality, chemicals/additives) and former/presses set-up. This information can help to improve product quality, forming fabric performance and process efficiency while reducing the energy consumption of the forming, pressing and drying operations.

Advancements in instrumentation have opened new avenues for effective use of vacuum table elements to control sheet consistency for a variety of paper making applications including dandy rolls for improved formation, multiple formers for optimum formation, coverage and ply bond as well as numerous

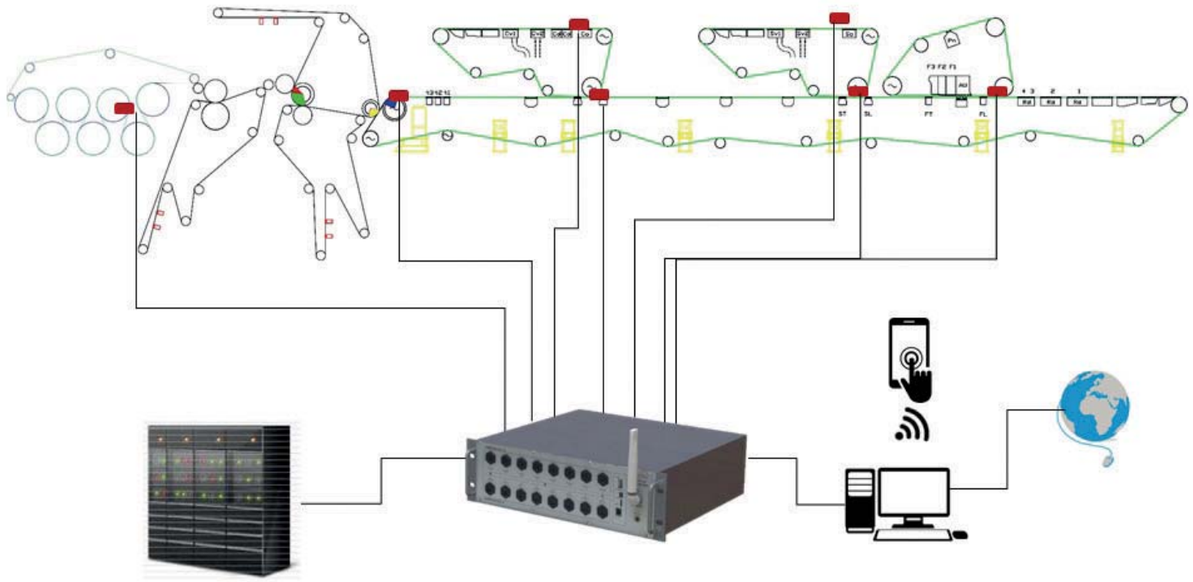


Figure 2 – The EPIC system, harnessing energy, control, intelligence and protection

chemical dosage applications.

Several studies, performed on different former configurations, revealed the opportunity to reduce the energy consumption, without compromising (and often improving) the machine efficiency.

The E.P.I.C. system represents the cornerstones of Cristini's Smart Sensor philosophy:

- Energy: paper manufacturing is a highly energy intensive process. Optimisation of the water removal reduces the environmental impact
- Protection: paper machine operators are always exposed to safety risks in the workplace. Automated and hands-free operation eliminates these risks
- Intelligent: a machine with an embedded, Internet-connected computer cluster that has the capacity to gather and analyse data and communicate with other systems, with the ability to adapt according to current data and the capacity for remote monitoring and management.
- Control: controlling a process is to maintaining or improving product quality while improving performance and management. The system must also be able to monitor parameters and make measurements on the web and as it moves through the process.

Open loops take human input and the closed loops are fully autonomous. When open, a

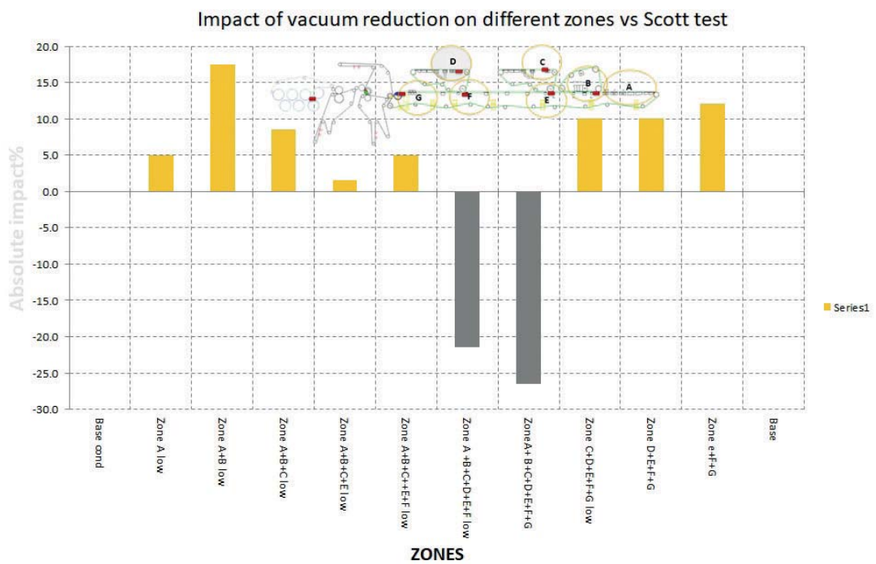


Figure 3 – Dewatering distribution has a crucial effect on the fibre distribution and delamination

switchable loop is manually controllable and when closed, it is fully automated.

Case study on a board machine

In a competitive market, successful companies are always seeking to improve. This article describes a recent case study into a multiple layer board machine, demonstrating a control strategy that allows the mill to enhance the board quality and reduce a notably the amount of energy used drives and vacuum pumps.

The project was evolved into precise steps:

1) analyse the current operation and targets
2) define the sensor requirement and installation of the system
3) data collection and analysis
4) targeted trial with the purpose to explore all the 'what if' scenarios
5) Implementation of control loops and final assessment.

Internal bond strength (Scott type) measures the energy required to rapidly delaminate a sheet-type specimen. Fibre mix and overall quality of the raw material has a major impact on the results.

On many occasions, starch is used to aim for the target value of Scott test. However, dewatering distribution has a crucial effect on the fibre distribution and the delamination position. Each single dewatering zone of the former has an impact on the internal bond strength, as shown in Figure 3.

Distribution of fines determine the weak spot in Z-direction

Consistency (as measured by the FiberScaOnlin) at the pre-former in combination with consistency at the combining points correlates with mechanical properties of the board.

The mill, in cooperation with Cristini, implemented a system to control, through a mix of open and closed loops, the consistency in the most critical position of the forming section, resulting not only in quality important achievements (more than 10 per cent of bond strength) but also in a massive energy reduction.

The optimisation of the vacuum level (controlled by the sensor cluster) on each zone has resulted in a reduction of electrical energy consumption by drives and vacuum pumps of more than 20 per cent.

The vacuum has been re-distributed to meet new needs, such as blowers in favour of liquid ring pumps for low and medium vacuum zones and two liquid ring pumps eliminated.

The balance of dewatering between the bottom and top dewatering units has a direct impact of the fibre and filler distribution, determining the weakest link. Only an accurate and repeatable measurement of the web consistency can overcome the well-known human limits in controlling such variables.

Further, the SmartScan contactless microwave sensor in the first dryer group has helped to dispel the myth that higher dryness in the forming section leads to better press/drier efficiency. See Figure 4.

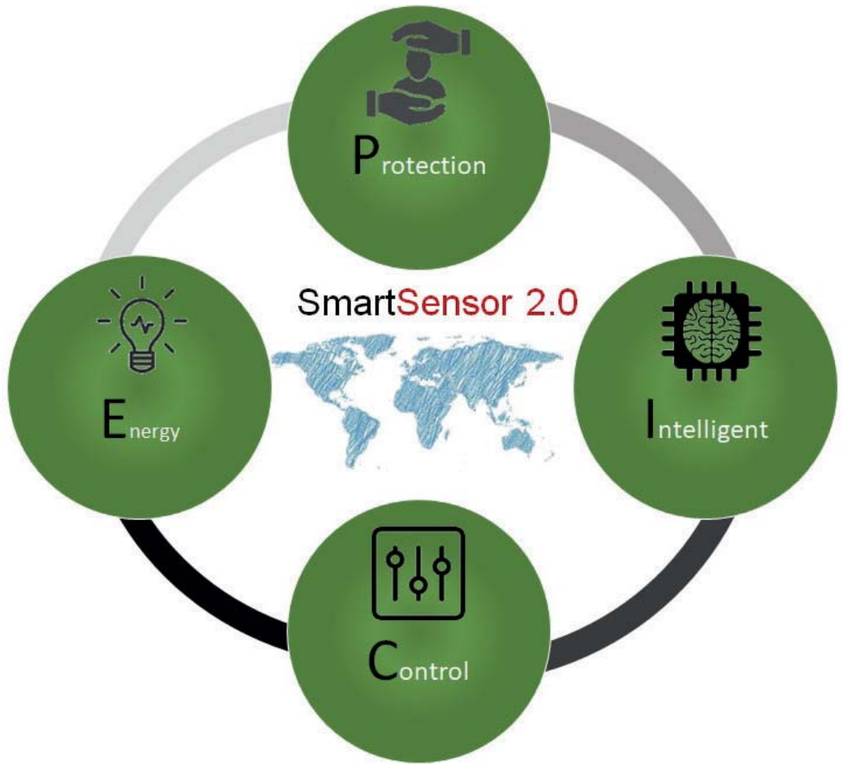


Figure 4 – Internal bond strength (Scott type) measures the energy required to rapidly delaminate a sheet-type specimen

Conclusion

The adoption and the daily use of the microwave measuring system significantly boosts many retro-commissioning processes within the optimisation programmes of board mills.

Quality and energy efficiency are therefore not contradictory but go hand in hand in the big picture of sustainability

Measurement is the first step that leads to control and eventually to improvement. If something cannot be measured, it cannot be understood. If it cannot be understood, it cannot be controlled. If it cannot be controlled, it cannot be improved.

*Luca Canali is development leader at Cristini Diagnostic Systems in Italy

Winder performance optimised for better availability and product quality

A program that enables paper makers to improve winder performance, convert to different paper grades and/or increase machine speed, without replacing existing machines has been launched by ABB.

Winder Performance Optimization works by benchmarking winder performance, implementing improvements, monitoring to sustain performance and – uniquely, says ABB – further optimising productivity by applying online calculations that continuously adjust winder acceleration and deceleration targets.

This optimisation is said to align capacity to demand and can improve productivity significantly; recent implementations have provided 8 per cent improvement.

The benefits of optimising existing winders are many, says ABB.

Winder Performance Optimization is cost-effective and easy to implement – requiring limited or no shutdown of the winder. Bottlenecks caused by larger, faster machines in the production process can be reduced and winder capacity maximized without compromising quality. KPIs are continuously monitored and analysed to enable preventive maintenance and increased uptime. In regenerative mode, the system feeds energy back while decelerating winder drives, enabling mills to be more energy efficient.

"We understand the importance for paper makers to ensure their existing winders are able to handle demands of different grades, various roll orders with high quality and productivity improvement needs," said Shankar Singh, global product manager, ABB Digital Solutions. "Our goal with this product is to help mills get improved productivity out of their existing winders, without the need to invest heavily in new equipment."

Further advantages include the ability to monitor and improve roll set quality, and improved utilization of machine reel capacity. Local and remote dashboards enable instant, straightforward data visualization, with advanced analytics and daily analysis of performance, control (speed, load share, tension) and roll set performance carried out by ABB experts.

Winder Performance Optimization is part of ABB's Ability Performance Optimization suite.

More information from https://new.abb.com/pulp-paper/abb-in-pulp-and-paper/collaborative-operations/winder-performance-optimization

Guide to surface inspection systems from Ametek

Automated online surface inspection systems specialist Ametek Surface Vision has launched a free guide for paper manufacturers that are hoping to achieve both high quality certification and yield optimisation.

The Paper Solutions Inspection Guide is a ready reference for California-based Ametek Surface Vision's integrated paper surface inspection and monitoring systems: SmartView and SmartAdvisor provide precise real-time detection and classification of paper, packaging and tissue manufacture.

The new guide details the integrated system's real-time video and modular design flexibility for detecting, analysing and classifying web flaws and defects. SmartView was the first digital camera-based system to be installed by a paper mill in the 1990s while SmartAdvisor pioneered synchronised web monitoring for paper manufacturers.

SmartView's top and bottom, real-time optical inspection is said to provide surface quality visibility in even the most complex processing environments. Synchronised with the web-monitoring SmartAdvisor, the system combines powerful software with line-scan camera technology and high-intensity lighting, allowing operators to review hours of synchronised images at production speed for unmatched root-cause analysis and material troubleshooting.

The guide illustrates the visual synthesis between upstream and downstream cameras and the key features that provide the foundation for increased production performance. It also outlines the system's detection capabilities across a range of defects and its production advantages.

Jason Zyglis, divisional project and product management chief at Ametek Surface Vision commented: "No other solution offers the flexibility and ease-of-use that SmartView and SmartAdvisor deliver. Our systems have become vital to increasing efficiency, streamlining operations, improving product quality and reducing costs. Our approach as a sole supplier of these unique systems remains simple: to provide the latest and best-fit inspection solution for each application, delivered with the highest consistency and without compromise by experienced service engineers."

More information from Ametek Surface Vision 1288 San Luis Obispo Ave, Hayward, California 94544, USA. Tel: 1 510 431 6709. Website: www.ameteksurfacevision.com

Ready for the future of papermaking with DuoShake DG

A shaking unit that provides optimum fibre orientation during sheet formation has been updated to bring it "into the digital age" by Voith.

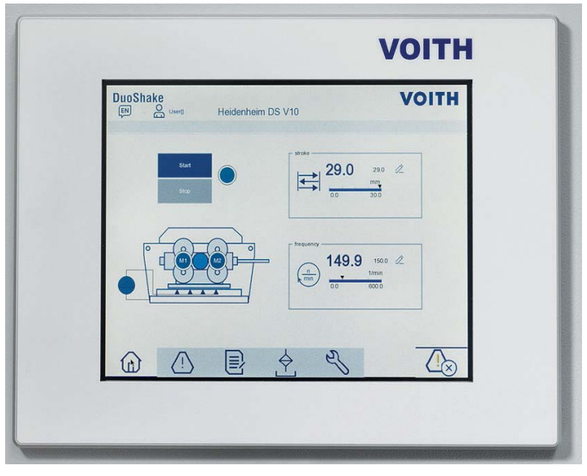
DuoShake, which has been used by paper makers for more than 20 years as a means to improve paper quality and process efficiency, optimises fibre orientation through high-frequency shaking of the breast roll, which results in better sheet formation of all paper grades and a low tensile strength ratio.

With the latest version, DuoShake DG (Digital Generation), Voith says it is taking the next step on its journey to Papermaking 4.0 with the inclusion of control and automation functions of the shaking unit. The new features are said to significantly improve process reliability and machine availability.

With the product update, papermakers are able to benefit from a number of new user-friendly operating features as well as smart automation functions:

• Real-time data monitoring: All relevant operating parameters can now be entered on site by using a fixed operator panel or optional use of mobile devices like tablets or smartphones. The web-based software used is a customised development from Voith. For maximum transparency, a cockpit interface provides users with a real-time display of all main parameters, for instance availability, stroke accuracy and drive frequency.

● *Modern data visualization:* The visualisation of the elements displayed is state-of-the-art and well-arranged; the touch controls are intuitive. Important information – for example on hydrostatic pressure as well as air, oil and motor temperature – is presented as an easy-to-see traffic light system. A customisable notification system for warning messages allows for fast response times if needed.



Software developed by Voith offers clear visualization and intuitive operation

New control and automation functions with Duoshae-DG increase process reliability and machine availability

● *Remote monitoring using mobile devices:* Convenient remote monitoring means all operating parameters and other machine data can be viewed from mobile devices (Android, iOS) anywhere and at any time. Access permissions can be defined individually for each user.

● *Optimised service function for maintenance:* DuoShake DG records actual operating times. Real-time data on maintenance intervals and service life of the most important machine components, like motor and coupling, ensure a simplified yet reliable maintenance planning process. The actual operating condition is known at all times. If maintenance becomes necessary, the shutdown can be planned and scheduled to be as efficient as possible.

● *Trend analysis and cloud connection:* DuoShake DG features an innovative trend function for identifying and analyzing faults. In the event of faulty operation, an instantaneous evaluation allows for immediate intervention. With the help of a context analysis designed for a longer period of time, processes can also be systematically optimised.

As an optional service from Voith, an interface can be used to provide a connection between DuoShake DG and the Voith digital platform OnCumulus – a scalable, flexible and expandable data hub for the Industrial Internet of Things (IIoT). The transmission of data and trends to Voith and an analysis and tweaking of the operating parameters by Voith experts result in increased availability, which then improves the overall efficiency of the paper machine.

For more information go to www.voith.com/duoshake

Plastic-replacement packaging uses hybrid paper-bioplastic mix

Italian tissue converting equipment manufacturer Fabio Perini has developed an eco-friendly, combined paper and bio-plastic material for use on its Casmatic machines as a means of replacing plastic packaging.

The move is in response to proposals to restrict the use of some plastics for disposable products by the European Commission.

The Lucca-based firm has developed 'green' primary and secondary packaging that can easily adapt to current systems and existing equipment.

With a partner company, Fabio Perini conducted tests of a range of materials on its latest packaging machines such as the CMW1000 and Carbon T, and developed an innovative, ecological material that combines paper and bioplastic with properties that can be interchanged with conventional polyethylene.

PPS is a paper coupled with Mater-Bi, an ecological bioplastic having the same properties as plastic polymers, but with the added benefits of being recyclable, biodegradable, and compostable.

Two types of PPS products are available: a low-weight paper, 25gsm, and a thicker 40gsm paper. Both are FSC-certified and are laminated or extruded with bioplastics with thicknesses ranging from 7 to 9 microns to ensure high pack weldability and an excellent product hygroscopic barrier.

PPS products are available in either virgin paper or recycled paper. The 100 per cent biodegradable virgin paper is certified 'Vinicotte OK compost', which has the fibres closely joined to accommodate the higher heat needed for bioplastic fusion and good packaging seals, as well as being more resistant.

PPS products are compatible with Casmatic's latest generation packaging machines – such as Casmatic A6T, CMW1000 and the new Carbon T – by using a 'bio-pack kit'. This makes it is possible to select the desired packaging material from the control panel and the Casmatic packaging machine automatically sets appropriate parameters.

Making life easier when handling paper rolls

A new paper roll pusher that is easier for operators to handle has been launched by CFE Nordic.

The EasyRoller features a handle that can be turned through 200 degrees, making it possible to tilt the machine and push the unit sideways.

The operator can move the EasyRoller in between rolls or to use it in areas where there is little space, for example at the unwinding stand where sometimes there is little space between the roll and the machine. Another advantage with the swiveling handle is that now it is possible for the operator to walk beside the EasyRoller, giving better visibility and safety when pushing rolls.

EasyRoller features an operator-friendly handle of the type as found on pallet trucks along with a 'belly button' emergency stop. The high-quality motor is said to require little maintenance and parts, with drives protected inside the chassis.

CFE Nordic says the EasyRoller is more economic to run because it doesn't consume batteries and brushes.

EasyRoller can also be equipped with a new feature, the CleanRoll. This feature avoids the drive roll of the roll pusher to mark the paper roll and thus improves the customer impression of your rolls.

More information from CFE Nordic, Skärslidarna 118, SE-311 78 Falkenberg, Sweden. Tel: 46 70 51 93 271. Website: www.cfenordic.com

Modernisation of stock preparation at Stora Enso's Oulu Mill

Stora Enso has ordered production technologies and key process equipment from Andritz for the rebuild of the fibre line and drying machine at its Oulu Mill in Finland.

The project, which also includes the modernisation of the mill's stock preparation system, is part of Stora Enso's plan to convert the mill's existing fine paper production to containerboard production based on virgin fibre kraftliner as well as to increase the capacity of the pulp mill and pulp drying line.

The typical end uses for kraftliner are in packaging segments that require high strength, quality and purity, such as food, fruit and vegetables as well as heavy duty packaging.

Ari Saarnio, director of the Stora Enso Oulu Conversion Project, said: "Conversion of the Oulu Mill will enable Stora Enso to further improve its position in the growing packaging market and take a major step forward in our transformation.

"Andritz has proven experience in similar rebuilds, and its strong position in pulp drying further contributed to this supplier selection."

Port Townsend eases into the future with ABB

Port Townsend Paper Corporation (PTPC), a pulp and paper producer in Washington State, USA, has had its distributed control system (DCS) upgraded by ABB.

ABB is providing a 'phased evolution' upgrade for PTPC's DCS which last year was nearing the end of its lifecycle.

As a result, the Port Townsend mill will be able to continue operations and avoid a weeks-long shutdown while ABB performs services and upgrades during planned downtime.

As part of the agreement, ABB changed the mill's existing Human Machine Interface (HMI) to an ABB Ability System 800xA which also serves as an integrated electrical control system, a safety system and a collaboration enabler with the capacity to improve engineering efficiency, asset utilisation and operator performance.

The mill also added OPT800 Cook/B, which is part of the ABB Ability Advanced Process Control offering for pulp mills. OPT800 Cook/B is the latest version of the Advanced Batch Digester Management System that sequences and schedules PTPC's batch digesters to process wood chips into pulp more efficiently, helping to increase production. PTPC will also benefit from minimised kappa variation and steam levelling, which will result in reduced chemical and steam usage.

The mill also receives ABB Pulp and Paper Care as part of the agreement. This is a modular service agreement framework designed to cut complexity, control cost, and maximize capital for ABB customers. ABB Pulp and Paper Care can address customer needs such as:

- Rapid Response guarantees fast and flexible service response to maximize equipment availability. Services include spare parts management programs, 24/7 technical support, and remote support services.
- Lifecycle Management provides powerful tools and ABB knowledge base to optimise and extend equipment life through use of ABB Automation Sentinel subscription.
- Performance Improvement increases productivity through usability and efficiency optimisation of equipment and processes. Services provided can include Site Services, Resident Service Engineering, and System 800xA Performance Services.

PTPC produces kraft pulp, paper, containerboard, and speciality products by blending virgin and recycled fibres at Port Townsend. It has a sister corrugated packaging facility, Crown Packaging, in British Columbia.

Cartiere del Polesine orders screening systems for Adria OCC line

Italian containerboard manufacturer Cartiere del Polesine is having the existing OCC line at its mill at Adria rebuilt by Andritz.

In addition to all main process components, Andritz will also install newly-developed equipment for primary-stage fine screening as well as fractionation.

The fluting and testliner production line will have a capacity of 400 bdmt/d and process AOCC (American old corrugated container) as well as special waxed waste paper as raw material when it starts up in the first quarter of 2020.

A FibreFlow drum pulper with extended pulping and screening section will slush the difficult-to-handle raw material to ensure gentle pulping, high fibre yield, and reliable operation. Specific trials on the industrial-scale drum pulper at the Andritz Stock Preparation Pilot Plant in Graz, Austria, confirmed future pulp properties and operating characteristics in advance.

Different types of ModuScreen pressure screens as well as two next-generation PrimeScreen Xs will be part of the screening processes.

The innovative top-feed concept of the new screen was decisive for Cartiere del Polesine to order Andritz's new screening technology. The top-down design takes advantage of gravity to remove heavy contaminants quickly and minimise wear on rotor and screen basket. Top-down also improves the removal of light rejects, preventing their accumulation in the feed area, which again extends the life of wearing components.

The scope of supply also includes reject treatment, basic engineering and site services. Cartiere del Polesine is a major player in the Italian and European containerboard industries and focuses on sustainable and innovative production. Four paper machines in two different mills produce around 300,000 tons of containerboard per year.

New tissue maker in Romania orders lines from Andritz

Newly-formed Romanian tissue maker MG TEC Industry has ordered two complete tissue making lines from Andritz.

The order for a mill at Dej comprises two PrimeLineCompact V tissue machines with steel Yankee dryers along with complete stock preparation systems, pumps, automation, hall ventilation, and electrification.

Start up for the TM1 line is planned for 2020 with the TM2 line starting up two years later.

Each line will be equipped with a stock preparation system including approach flow system and broke handling. The proven TwinFlo disc refiner technology is used in a separate long-fibre line to achieve optimum development of fibre properties. The approach flow systems feature the ShortFlow concept, which allows a minimised number of equipment items and very low storage volume as well as fast grade changes at the tissue machine.

The tissue machines have a design speed of 1,900 m/min and a width of 2,850mm, and are equipped with 15ft PrimeDry Steel Yankees. The drying components for each line comprise a PrimeDry Hood G, a PrimeDustEXT dust extraction system, and a PrimeMistEXT mist extraction system as well as the hall ventilation system and will be delivered by Andritz Novimpianti.

The pumps, with efficiencies of up to 90 per cent, enable long life cycles at highest cost-effectiveness. An automation system combined with the latest drive technology ensures modern and efficient plant operation.

MG TEC project coordinator Ioan Tecar commented: "Decisive criteria for the order were the innovative technologies of Andritz that enable easy and safe operation with high quality and the capability to deliver everything from a single source."

Blue Tissue in Mexico starts up new A.Celli line

Mexican tissue maker Blue Tissue Sapi de CV has started up a new production line at its Apizaco plant in Tlaxcala state.

The TM1 turnkey line uses an A.Celli Master tissue machine and includes a two-ply slitter, an A.Celli E-Wind T100 rewinder, and integrates the customer's existing converting line. The machine is also equipped with the latest-generation A.Celli iDEAL forged Yankee dryer.

The machine has a 2,700mm-wide pope reel for the production of tissue rolls up to a diameter of 2,500mm. Operating at up to 2,000 metres per minute the line has capacity to produce 110 tons of tissue per day.

An advanced version of DCS has been installed, with the latest graphic interface.

Italy-based A.Celli said that the installation was the result of 'great team work' between A.Celli's technicians and the staff at Blue Tissue.

The location of the mill, Apizaco, means 'place of the small river' in the native náhuatl language, and is at an altitude of more than 2,400 metres between the capital Mexico City and Veracruz on the east coast.

New recovery boiler for 'Big Ust-Ilimsk Project' in Russia

Russia's Ilim Group has ordered a new recovery boiler from ANDRITZ for its Ust-Ilimsk mill in the eastern Irkutsk region of Russia.

The ANDRITZ Herb recovery boiler will have a black liquor combustion capacity of 1,950 tds/d, and start-up is planned in the second half of 2021.

The order is part of the US$1 billion 'Big Ust-Ilimsk Project' that that will increase pulp output at the mill by 130,000 tons per year and a finished product capacity increase from 550,000 to 1.5 million tons per year.

The Herb recovery boiler offers high efficiency and availability as well as a modern combustion air system, among other things. It is designed to handle all non-condensable odorous gases generated in the new pulp line in any foreseen operating situation.

In recent years, ANDRITZ has received three major recovery boiler upgrade orders from the Ilim Group, and this new Herb recovery boiler delivery is another example of the excellent long-term relationship between the Ilim Group and ANDRITZ.

Expansion for Paloma tissue mill in Slovenia

A new tissue-making line being planned by Slovak Hygienic Paper Group for its Paloma mill at Sladki Vrh on the northern border of Slovenia will be supplied by Italy's Toscotec.

The turnkey line, which will be delivered for March 2020 and started up three months later, includes an Ahead-2.0L tissue machine, equipped with a second-generation steel Yankee Dryer TT SYD, Toscotec's TT NextPress shoe-press technology and TT Hood-Duo gas-fired hoods.

With a net sheet width of 5,500mm and a maximum operating speed of 2,000 metres per minute the line's production capacity will be 220 tonnes per day.

The Ahead-2.0L machine will replace the mill's existing PM6 and will manufacture high quality toilet tissue, kitchen towel and napkins for household and professional use.

Toscotec will provide its proprietary TT DCS distributed control system and a complete electrification system. The order also includes stock preparation equipment and accessories, Toscotec's patented TT SAF (short approach flow), the machine's dust and mist removal systems and a shaft puller.

As part of a comprehensive service package, Toscotec will supply on-site erection, supervision, commissioning and start-up, as well as staff training programmes.

Following investment by privately-owned investment fund Eco Investment in 2016, and its integration into the Slovak Hygienic Paper Group (SHP) group, Paloma is aiming to become the leading manufacturer of hygienic paper products in the Adriatic region.

Richard Zigmund, chief executive of SHP Group, says: "When we decided to invest in new capacity at Paloma's production base, we started looking for a machinery supplier who could manage and successfully complete complex turnkey projects. Toscotec proved to have the right credentials to support our strategic program and supply the state-of-the-art technology we need to set Paloma's manufacturing at full capacity."

Alessandro Mennucci, chief executive of Toscotec, adds: "This new project strengthens Toscotec's position as the leading turnkey supplier in tissue. We look forward to working with Paloma, which has a long-standing tradition in the production of hygienic paper products and has built a strong team of highly specialised professionals.

"Based on their investment targets, we developed a fully-customised design aimed at improving the mill's energy efficiency and manufacturing processes, in step with this capacity increase."

Paloma was founded in 1873 and has a long tradition in the manufacture and marketing of hygienic paper products in Europe. It employs 675 staff and has capacity to produce 72,000 tonnes of tissue a year.

Valmet supplies kit to fibre board lines in China

Defibrato systems are being supplied by Valmet to two MDF mills in the Bashida Group in China, one to Heze Baishida Wood, and another one to Jiangsu Ronghui Wood with start-ups expected in early 2020.

The order, the value of which was not disclosed, includes an EVO 50 System. The Defibrator system is an essential component in a fibre board line, and provides for a minimum of shives and low fines content, which is a prerequisite for successful fibre board production.

"We have good experiences with Valmet's Defibrator systems. This will bring us big advantages in our production performance and improve the quality in our products," says Chen Zenghua, sales director at Baishida Group.

Zhu Yongbiao, one of the owners at Jiangsu Ronghui Wood, added, "With the new Defibrator system, we will be able to increase our production capacity. Valmet is also our preferred supplier for future investments."

Leif Sundberg, sales manager for Pulp and Energy at Valmet, commented: "We have a long relation with Baishida Group, and it is a win-win situation with these two new orders. Valmet has the machinery with the best performance, and next Evolution Defibrator (EVO) user meeting in September will be at Baishida site in Shandong, China."

Baishida Group is one of the largest companies in fibre board business in China with headquarters in Jining City, Shandong Province. Baishida has eight branch mills fibre board production capacity of about 1 million cubic metres per year. The products are mainly used for floors and furniture.

Michael Haws to head up Sappi North America

Michael Haws, 56, has been appointed president and chief executive of South Africa-based Sappi North America, as from the beginning of October.

The American succeeds Mark Gardner, 63, a 38-year veteran of Sappi in North America and its president and chief executive for the past 12 years.

Steve Binnie, chief executive of Sappi Limited, commented: "I would like to thank Mark for his sterling service and for the support he has shown me. His tenure saw massive changes as we restructured and refocused the business, a task he embraced and has executed with aplomb.

"I am confident that under Mike's leadership our business will take full advantage of the exciting opportunities for the pulp and paper industry in North America."

Haws joined Sappi in 2012 as managing director of the Somerset Mill before being promoted to vice president of manufacturing in October 2015 with responsibility for the Somerset, Westbrook and Cloquet Mills, the Allentown sheeting facility, and of safety, R&D and customer care.

Michael Haws

Jori Ringman takes over as CEPI director general

Jori Ringman has been appointed by the board of CEPI, the European association representing the forest fibre and paper industry, as director general following the death of Sylvain Lhôte.

"I am honoured to be entrusted the role of leading a team of great professionals, representing a sector with fascinating potential," said Ringman. "The growing demand for sustainable, recyclable products is increasing the importance of fibre-based products in a wide range of sectors. The European paper industry will enable the EU economy to transform itself and become a more sustainable and resilient society.

"I am proud to take on this challenge and look forward to helping advance sustainability, innovation and opportunities for pulp and paper sector companies and workers across Europe."

Kalle Sundström, CEPI chairman and chief executive of Stora Enso, commented: "In this challenging time, with the sudden and unexpected death of Sylvain Lhôte, I am glad to be able to count on the experience and competence of Jori Ringman to efficiently deliver on what has been prepared by the CEPI team over the last months, and continue to shape the strategic presence of our industry at EU level."

Sylvain Lhôte died of heart failure in June, aged 51.

Ciechan appointed finance director for DS Smith's paper business

Emma Ciechan has been appointed as finance director at UK-based DS Smith's Paper Division.

Ciechan joined DS Smith as director of planning and performance management in November 2016 from Guardian Media Group, where she was group financial controller.

Her responsibility was to build and lead the financial planning and analysis group finance function, as the business moved from FTSE 250 to FTSE 100, and expanded her role to manage the company's sustainability strategy.

DS Smith's paper division employs 3,000 people and produces more than 4 million tonnes of paper products from 14 mills in 10 countries.

Marie Cyr appointed manager of Domtar's Dryden mill

Fibre-based products manufacturer Domtar Corporation has appointed Marie Cyr as manager of its mill in Dryden, Ontario, as from the beginning of August. Cyr succeeds Jim Blight, who has retired.

Since December 2013, Marie has been the Windsor Mill's pulp mill manager and superintendent, responsible for developing the pulp mill's strategy and leading its manufacturing operations. Cyr joined the Windsor Mill in 1995 as a maintenance engineer and project manager, and has held roles of increasing responsibility in maintenance and planning in the Windsor Mill's pulp and converting operations.

Domtar said in a statement that Marie is a strong advocate for using the continuous improvement tools to foster a culture of learning and growth and has a unique ability to quickly bring teams together and unify them toward accomplishing an objective.

New managing director for DS Smith's recycling business

DS Smith has appointed John Melia as managing director for its UK recycling division. Melia supersedes Mat Prosser, who takes up a new post as Head of Strategic Business Development and Transformation (Europe).

John brings more than 25 years' experience in the manufacturing and process industries, where he was responsible for leading complex multi-site organisations. Holding director-level positions in commercial, operations and business development functions, Melia also boasts expertise with companies spanning the chemicals and food sectors.

Melia commented: "It was DS Smith's commitment to shaping the future of the circular economy that really caught my attention. I am new to the recycling sector, but I firmly believe that the transfer of management skills can boost fresh thinking and innovation in any business environment. As such, my focus will be on applying my capabilities and knowledge to further drive DS Smith's success."

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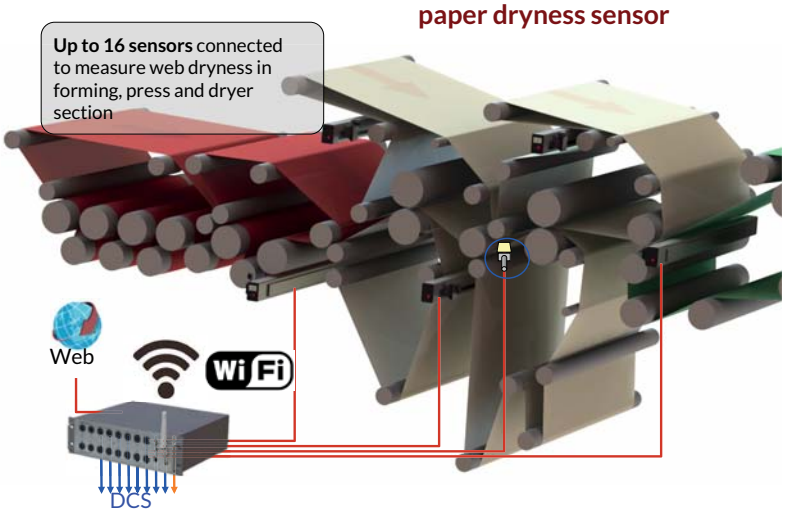

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