

# PULP PAPER & LOGISTICS

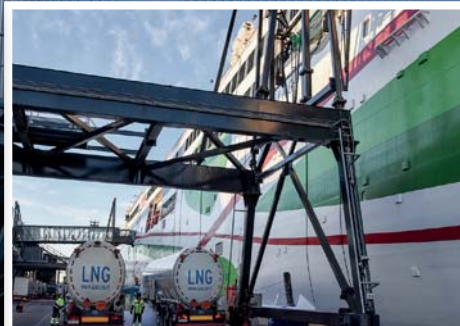
VOLUME 12 NUMBER 59

March/April 2020

**ANDRITZ: The  
only way is up**  
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**DS SMITH**



**LOGISTICS**



**VALMET**



PULP & PAPER

# EvoDry PULP DRYING SYSTEM

LET YOUR PERFORMANCE GROW

**LET YOUR PERFORMANCE GROW WITH THE NEW AND INNOVATIVE EvoDry PULP DRYING SYSTEM FROM ANDRITZ**  
In designing the EvoDry Pulp Drying System, ANDRITZ has produced a high-performing, low-maintenance, all-in-one drying line unlike any other drying system, while also considering aspects relating to health, safety,

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## COMMENT

**A**s we welcome you to the March-April issue of Pulp Paper & Logistics, it is in uncertain times, with the coronavirus taking hold in Europe.

At the time of writing, we individuals in the UK are relatively free to circulate, but that could change with the possibility of more draconian limitations on movement.

For most people, the first reaction to news of impending restrictions was to rush to the supermarkets and panic-buy items like toilet rolls. On the face of it that seemed like good news for the tissue industry, as demand for its products seemed to spike.

Indeed, in Australia, ABC Tissues, which supplies half the country's toilet products, reported that it had to increase output by 15 per cent to keep up.

But the reality may be more gloomy. Infrastructure and supply chains are bound to be impacted. Consumer demand for toilet rolls remains the same – after all people aren't using their ablutions any more – but tissue production is going to be disrupted, as in any industry, because staff suffering from the virus won't be able to get to work.

Already we hear that many of the tissue manufacturers around Lucca are shut as the lockdown in Italy is being applied ruthlessly. We only hope that some common sense will prevail, enabling skeleton staff to get things moving.

We've got to stay positive, so let's look ahead to the May-June issue of PPL, which will be our 60th and the 10th anniversary of the magazine.

We are planning to provide pre-show news for Zellcheming, being held in June at Frankfurt in Germany, but that may change if government restrictions on events attracting more than 1,000 people at any time continue.

Feature subjects include the annual focus on shipping, ports, handling and warehousing, along with forklifts and cranes; water and environment management; and automation for paper, board and tissue production.

Finally, so we can offer a faster service for those downloading or subscribing to Pulp Paper & Logistics, we have now enabled PayPal payments. This will ensure quicker access to every issue of the magazine at a reduced rate to those who want to explore the content. Go to [www.pulp-paperworld.com/emag](http://www.pulp-paperworld.com/emag)

Stay safe.

Vince Maynard, publisher

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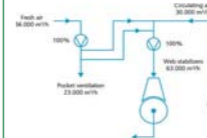
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# PULP PAPER & LOGISTICS

# Sustainable packaging papers coming on stream from UPM

The PM2 machine at the Nordland mill in Germany that UPM had converted in 2018 with a view to making more sustainable packaging papers is being ramped up to its design capacity of 110,000 tonnes a year.

UPM says the flexibility of the machine enables production of a wide range of products, such as glassine, kraft and barrier papers.

“With the help of new capacity from UPM Nordland in Germany, we can support our customers’ sustainability goals even better,” says Jaakko Nikkilä, executive vice president at UPM Specialty Papers.

“UPM Specialty Papers can help replace non-renewable materials with recyclable solutions from sustainably managed forests. The new capacity from Nordland will further improve availability of our most recent innovations for labelling and packaging. Customers also have access to



At UPM’s Nordland mill in Germany capacity is being ramped up

a stable supply of paper from UPM’s extended network of world-class mills.”

A new method for release liner recycling has been developed by UPM which is said to help promote a circular economy within the labelling value chain.

Collected release liners are de-siliconised and used to produce new high-quality release liner base papers.

To help customers in the transition to more sustainably-designed packaging, UPM is developing recyclable barrier

papers for more demanding end-uses, such as food packaging, along with the introduction of a portfolio of kraft papers for packaging. These papers replace non-renewable and difficult-to-recycle materials in many applications, says UPM.

## UPM to close its Chapelle mill

UPM is planning to close its Chapelle newsprint mill at Grand-Couronne in France after being unable to find a buyer.

The paper maker started the sales process in September 2019 and says it has been in continuous and substantial discussions with interested parties. But it has not received any interest from potential buyers.

Employee consultation processes have been started for the potential closure of the site. There are 236 employees at the mill, which has capacity for 240,000 tonnes a year.

UPM said: “We will continue the sales process throughout the consultation process. We remain committed to selling the mill if we receive a suitable offer.”

## Pack windows made from wood pulp

Polish packaging producer, SoFruPak, is using Futamura’s renewable and compostable NatureFlex films for the windows in its soft fruit tray lids.

NatureFlex is made from responsibly-managed wood pulp and is certified by TÜV Austria OK Compost for home composting, while meeting



the EN13432 EU standards for industrial composting



## Heimbach TASK

Process expertise and tailored solutions

Even small improvements in and around the paper machine can often release great savings potential. Your profits can be enhanced by maximising production efficiency and keeping maintenance costs to a minimum. Place your trust in our technical know-how and sound service competence that provide effective support in optimising your processes.

See for yourself our well-established expertise and extensive technical service portfolio, including:

- MD Mass Variation Analysis (ODIN)
- Speed Measurement
- Thermography Measurement
- Troubleshooting



www.heimbach.com



# Solenis to acquire its chemical agent in South Africa

Speciality chemical supplier Solenis has agreed to acquire the paper business of ChemSystems, a division of AECI Ltd.

South Africa-based ChemSystems produces and supplies specialised chemicals for water intensive industries, including the pulp,

paper and tissue manufacturers in South Africa and Sub-Saharan Africa. Until the acquisition, the business was the pulp and paper speciality chemical distributor for Solenis in Africa.

“This is an excellent opportunity to continue to consolidate our channel to market after the recent successful merger of BASF’s



Paper and Water Chemicals business with Solenis,” said John Panichella, chief executive of US-based Solenis. “We have had an exceptional working relationship with ChemSystems for many years and this acquisition will allow Solenis to directly provide value to pulp, paper and tissue markets in South Africa.”

Mark Dytor, chief executive

of AECI added, “Through ChemSystems, we have partnered with South Africa’s pulp and paper customers for many years. Excellent relationships have been developed and I am certain that these will be enhanced further by Solenis.”

The deal is expected to be completed in the second quarter of 2020.



Solenis has moved to a new 90,000sqft global headquarters at Wilmington in Delaware

# Fire hits IP’s Rome mill

Production of kraft linerboard at International Paper’s Rome kraft linerboard mill in Georgia will be impacted following a severe fire on the morning of Sunday 15 March.

Local reports said that the fire appeared to have started close to the two large paper machines. Fire fighters said that collapsed roofs and walls, and the location of the fire, made it difficult to bring under control. One employee was treated for smoke inhalation.

The next morning, investigators started work in trying to locate the source of the blaze. International Paper’s



spokesperson Jenna Guzman said on the day after that the company hadn’t yet determined the impact of the fire on production.

The mill has capacity to produce 830,000 tonnes of linerboard

each year from the two machines. Mark Wilde of BDO Capital Markets commented: “Although we are still digging for further information on the extent of the damage, the potential impact on the containerboard market could be significant – if the mill is out of commission for an extended period of time.”

The mill at Coosa near Rome was started up in 1954 as a joint venture between Mead Corporation and Inland Container and in 2012 became part of International Paper, which a year later said it would invest up to \$150 million in the mill’s operations.

# Paper sack business takes off in Central America

Smurfit Kappa is expanding its paper sack business with a \$36 million investment at its Palmira mill in Colombia.

A new Windmüller production line will increase output by 100 million sacks a year when production starts in 2021. The move follows a similar expansion at Smurfit Kappa’s sack plant in the Dominican Republic.

Paper sacks are used by a wide variety of sectors including construction, industrial, food, and agriculture across Colombia, Ecuador, Central America and the Caribbean.

# Sales of paper for shopping bags increases 400% in three years

The backlash against single-use plastics packaging in UK supermarkets and fast-food outlets has resulted in a huge increase in orders at DS Smith for the paper used for making bags.

Last year, DS Smith’s Kemsley



Paper Mill – the largest paper recycling mill in the UK – supplied enough paper to make around 400 million bags.

Over the past three years, orders from bag manufacturers for paper made from recycled materials have increased by 400 per cent.

Ben Jennings, general manager at the Kemsley Paper Mill commented: “Over the past three years, we have seen significant interest in sustainable solutions to a variety of packaging challenges, including the shopping bag. Across our network our paper contains over 80 per cent recycled content



and across the supply chain, from punnets to bags, we are working

with customers to find solutions to remove single-use plastics.”

## Model 23

Roll Lifting Beam

Caldwell’s Model 23 Roll Lifting Beam can be used to lift rolls with plate style or bent bar J-Hooks. Product features include:

- Ideal where headroom is limited.
- Easy lifting and positioning of rolls.
- Adjustable spread options.
- Twin hoist capability.
- Motorized rotation available.
- Complies with ASME standards.



Contact Caldwell today for more details or Model 23 Roll Lifting Beam options!



The Caldwell Group

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Rockford, IL 61109

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## Mondi aims to save the climate with the WWF

**E**mission-reduction targets that help the transition to a low-carbon economy have been set by packaging and paper manufacturer Mondi Group.

Established with the World Wide Fund for Nature's (WWF) Climate Savers programme, the initiative defines and promotes best practice in science-based target setting, offers resources and guidance to reduce barriers to adoption, and independently assesses and approves targets for companies.

Austria-based Mondi's targets will be approved by the Science Based Targets initiative, a collaboration between CDP, the United Nations Global Compact, World Resources Institute (WRI)

and the WWF.

The first target pledges to reduce scope 1 and 2 greenhouse gas (GHG) emissions by 34 per cent per tonne of saleable product by 2025 and 72 per cent by 2050, from a 2014 base year. The second target commits to reducing scope 2 GHG emissions by 39 per cent per MWh by 2025 and 86 per cent by 2050, also from 2014. The setting of a science-based GHG reduction target is an important step in supporting the achievement of Sustainable Development Goal (SDG) 13 Climate Action.

Gunilla Saltin, Mondi Group's technical and sustainability director and chief executive for uncoated fine paper, said: "The climate crisis is one of the



**Gunilla Saltin: "Mondi's new science-based targets are our next step in the move towards a low-carbon economy"**

greatest threats facing society and businesses must play a key role in mitigating its impact. Mondi has already made progress – by reducing our specific GHG emissions by 15.5 per cent since 2014. In 2019, we decreased our mills' absolute Scope 2 emissions by 21.7 per cent through increased self-sufficiency and purchase of

renewables compared to 2018. Yet, we recognise that much more needs to be done and Mondi's new science-based targets are our next step in the move towards a low-carbon economy."

Mondi has already made strategic energy-related investments across its pulp and paper mills and has invested more than €700 million in modernising energy plants and improving energy efficiency since 2013. It generates most of its energy in on-site energy plants and its pulp and paper mills are net electricity self-sufficient. Mondi is also increasing its use of biomass to reduce its production-specific GHG emissions to levels recommended by climate scientists to keep global warming in line with a 2 deg C target.

## Sappi expands barrier paper range

Sappi has added products to its range of barrier papers, which offer protection against oxygen, steam, grease and oil.

A new weight, 91 g/sqm, is included in the high-barrier range, while a 75 g/sqm weight enhances the light-barrier range



## Paper and board output follows sliding growth in Europe

Paper and board production declined by 3 per cent in Europe last year, according to preliminary figures released by CEPI, which represents the pulp and paper industry. But market pulp production jumped by 6 per cent.

Despite more capacity being

brought on stream and existing mills upgraded, plant closures and lower operating rates dragged down paper output across the continent, says CEPI.

The downward trend was recorded in all the top paper and board producing countries:

Austria, Belgium, Czech Republic, Finland, France, Germany, Hungary, Italy, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom.

The decline is attributed to the

slowing of Europe's economy: growth slipped from 1.9 per cent in 2018 to 1.1 per cent in 2019, according to the European Commission.

This, combined with global instability and trade tensions, hit consumption of paper and board,

## Grolsch uses Smurfit Kappa's latest cardboard multipack

**S**murfit Kappa's latest paper-based replacement for the plastic shrink wrap on multi-packs of beer cans was launched in March by Royal Grolsch in the Netherlands.

The TopClip was designed as a development of its GreenClip but with better branding opportunities. The design also keeps the tops of the cans clean.

Royal Grolsch is part of the Asahi global food and beverage giant which owns a wide portfolio of brands including Peroni, Asahi beer, Mountain Dew and Schweppes tonic water.

The TopClip is said to be recyclable and biodegradable, and will enable Grolsch to replace 100,000kg of plastic year. The change is part of Grolsch's goal to become a zero-waste brewery.

Commenting on the collaboration, Joost Nawijn, packaging development specialist at Grolsch, said: "An independent life cycle analysis has shown that replacing the current plastic shrink wrap around



the cans with the new TopClip packaging ensures a carbon dioxide reduction of 36 per cent compared to new plastic shrink wrap and 16 per cent compared to recycled plastic shrink wrap. The total so-called eco costs are even halved. The combination of the sustainable character, the high-quality appearance and the ease of use made Grolsch choose this solution."

Arco Berkenbosch, Smurfit Kappa VP of innovation & development, added: "We can't

wait to see this breakthrough solution in the hands of the consumers.

"The alignment between Grolsch's goal of becoming a zero waste brewery and our Better Planet Packaging initiative reinforces the fact that Grolsch is the ideal partner to be the first on the market with this solution. We are delighted to support Grolsch in launching their revolutionary multipacks and look forward to facilitating the eventual conversion of all multi-packs from

shrink wrap to TopClip."

• Smurfit Kappa won eight 2020 Worldstar Awards with its cardboard packaging. They were the Rollor Packaging, which protects clothing from being creased during delivery; the 'eCommerce Pedal Pack' for replacement bike pedals which is slim enough to fit through a letterbox; the Litovel beer multipack which facilitates considerable logistics savings; pack for Chivas Scotch whisky which reduces its carbon footprint and can be repackaged while retaining the outer case; 'Smart Edge-Protector' product made for Stroh, an Austrian spirit producer; in the Transit Category, the 'Touch Box' significantly reduced the amount of packaging originally used for packs of parts; also in Transit the 'Skewed Insert' for car door seals includes two identical trays that have increased the capacity of the box by a quarter; while the 'Easy-Rep' display, which was first used to promote Cadbury's Mini Eggs, was top in the Point-of-Sale Category.

which declined by 4 per cent.

Domestic paper and board deliveries in Europe fell by 2.6 per cent compared to 2018, while imports fell by 3.9 per cent. Paper and board exports grew by almost 0.9 per cent.

In contrast to previous years, packaging paper and board production remain relatively stable in 2019, but unable to offset the on-going decline of graphic grades – newsprint and

printing and writing papers – which fell by more than 8.0 per cent in 2019.

Growth in the production of sanitary and household papers was just 1.0 per cent.

Total pulp production (integrated pulp plus market pulp) increased by 0.8 per cent. It was out-performed by market pulp production which jumped by 6.1 per cent as a result of recent investments in new capacity,

driven by export market demand. Similarly, exports of market pulp jumped by almost 40 per cent in 2019 according to Eurostat.

Commenting on the figures, CEPI said: "To respond to this higher demand, the European paper industry has invested significantly to increase the production of market pulp and further implement the bio-refinery concept. These investments combine higher

efficiency in raw material use and the production of highly innovative bio-based products, besides market pulp."

Pulp produced in Europe is sourced from sustainably managed forests, for example through programmes like PEFC (Programme for Endorsement of Forest Certification) and FSC (Forest Stewardship Council), and is increasingly used in a number of value chains.

# Port of Helsinki aims to be carbon neutral in 2035

**P**ulp and paper manufacturers in Scandinavia could reduce the carbon footprint of their logistics with future use of The Port of Helsinki.

The Port has applied to the EU for funding in support of a number of environmental investments.

Objectives are, among others, to decrease emissions in the Helsinki port area and to allocate benefits to local residents and the city as a whole. The total investment planned is €18 million, and the funding is hoped will contribute to 20-30 per cent of this.

With a goal of being a front



More environmental investment for Port of Helsinki

runner in sustainable port operations, the Port's action programme is to achieve 100 per

cent carbon-neutral operations by 2035.

The Port is applying for the

European Union's CEF funding for several projects of the Carbon-Neutral Port 2035 action programme, such as onshore power investments, energy-efficiency projects for the terminal buildings, the automatic mooring system of berth EK7, and the double vehicle ramp intended for the Vuosaari-Muuga route that will be built in Vuosaari Harbour.

To reduce the impact of moored vessels on the local environment, they will be supplied by onshore electricity so they do not need to use their auxiliary engines.

The Port expects to receive the EU's funding decisions by the end of the summer 2020.

**OUR NET WORKS**

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Finnlines operates numerous routes and vessels all the year round between the main ports in the Baltic Sea, the North Sea and Finland.

In-house transhipments of all types of commodities to and from the Mediterranean, West Africa, North and South America with Grimaldi and ACL.



# State-of-the-art corrugated box plant opened in US by DS Smith

**A**'state-of-the-art' carton box manufacturing plant has been started up by DS Smith at Lebanon in Indiana, USA.

The formal opening of the corrugated plant on 24 January heralded DS Smith's latest technology, keeping pace with increasing demands by consumers and retailers for fully-recyclable boxes and 'fit-to-product' packaging that reduces costs, waste and the 'packing air' of irregularly shaped items.

The facility can produce about 30,000 boxes an hour and two billion square feet of recyclable packaging a year.

"Our new facility in Indiana is unique to the US market," said Miles Roberts, group chief executive of DS Smith. "With our innovative packaging design and focus on sustainable materials, we can support our customers' needs in a changing world, no matter how sophisticated their requirements. We look forward to serving many of the global brands we work with in Europe, as well



Inside DS Smith's new box plant at Lebanon – it's "unique" says chief executive Miles Roberts (pictured right below)

as a range of new customers with their US-based packaging."

The boxes made at the Lebanon plant will use 30 to 40 per cent less fibre than what is traditionally used in the US. The next-generation boxes will enable brands to meet growing consumer calls for more

sustainable packaging and a reduction of shipping costs across the US.

"Our new box plant stands apart from the rest in the industry and is equipped with state-of-the-art equipment and machinery that relies on fully-automated operations," said Mark Ushpol,

managing director of packaging for DS Smith in North America. "Our talent and teams are free to focus on working directly with customers designing custom packaging that reduces system waste, drives sustainability and provides immediate value to the supply chain."



# Small interventions, but big effects

The deep analysis of a newsprint line by Heimbach's TASK experts revealed the reasons behind a number of costly shortcomings. Here's what they found. PPL reports

**W**here else can the most energy be saved in paper production than where the most energy is actually consumed – in the dryer section. This is where almost two-thirds of the total energy requirement is needed. And this is where small optimisations can have a great effect – you just have to know where and exactly how: as in the following example from the everyday work of the Heimbach TASK experts.

A customer making newsprint at 1,600 metres per minute (m/min) complained at the highest level about edge lifting in the slalom groups and bottlenecks in the dryer section. Also visible was creasing at the edges of the sheet in the conventional groups.

The analysis showed that in general the situation in the dryer section was good. The water load of the pocket air was at a good level. However, a more in-depth look showed that:

- The stabiliser settings were not perfect – a must on high-speed machines. This was an explanation for the edge lifting.
- The air circulation in the pockets was not at its optimum. A large part of the fresh air supply was being used to stabilise the sheet and was therefore not available as pocket air for evacuation of the evaporated water, as shown in Figure 1.
- Opening the last gate of the dryer section during production to prevent drop formation in the hood indicated a shortage of exhaust air.
- The layout of the air ducting was much too complicated. Unnecessary branching caused air to travel longer distances with a resulting loss of energy.

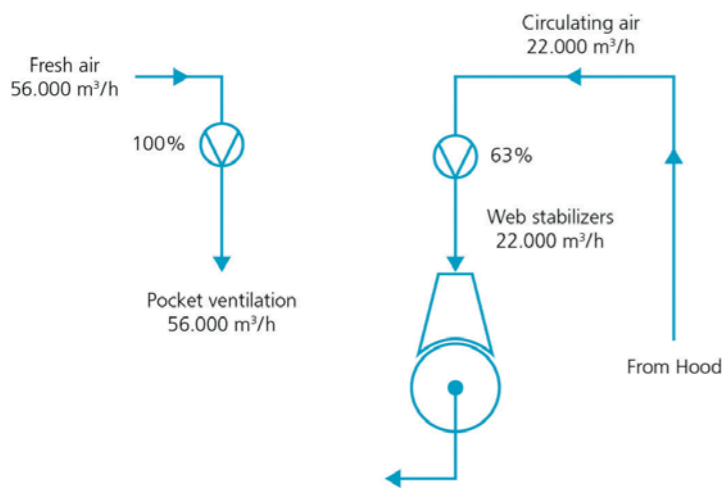


Figure 2 Step 1 – Fresh air to the stabilisers reduced

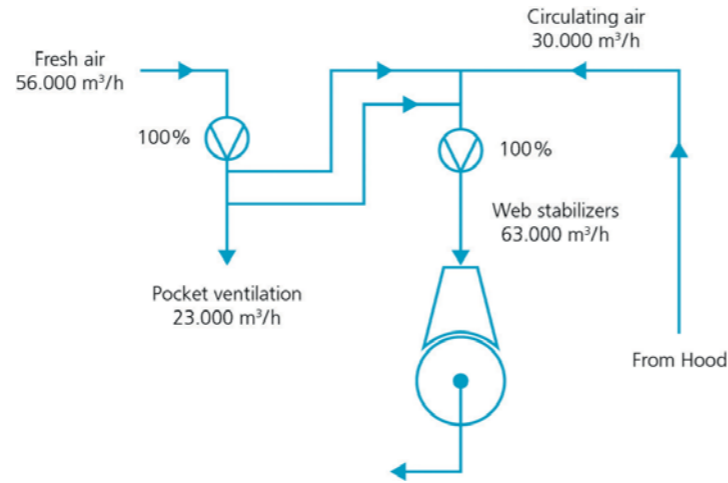


Figure 1: Initial conditions

### Phase 1: Dryer groups 1-4 Actions and results

- Optimum adjustment of web stabilisers, thus no edge lifting.
- Provision of fresh supply air to the stabilisers has been reduced (Figures 1 and 2) and later completely closed (Figures 2 and 3).
- The Hi-Run ventilator runs only with circulating air out of the hood. Power consumption fell by 37 per cent, plus annual savings in the five-figure range.
- The fresh air saved benefits pocket ventilation (Figure 4)

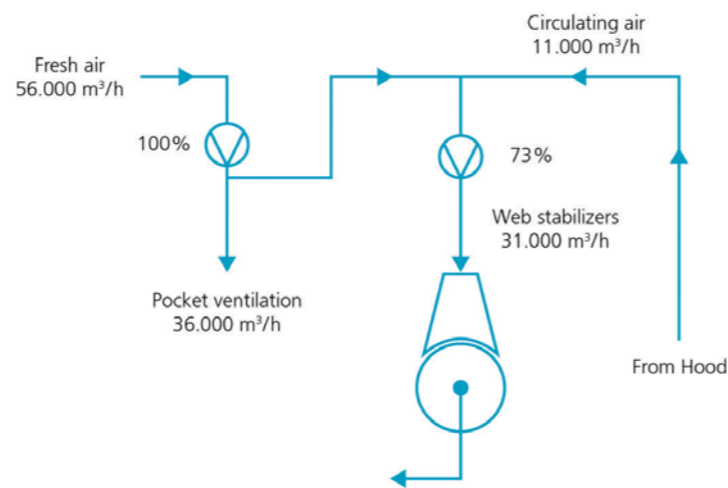


Figure 3: Step 2 – Fresh air to the stabilisers turned off

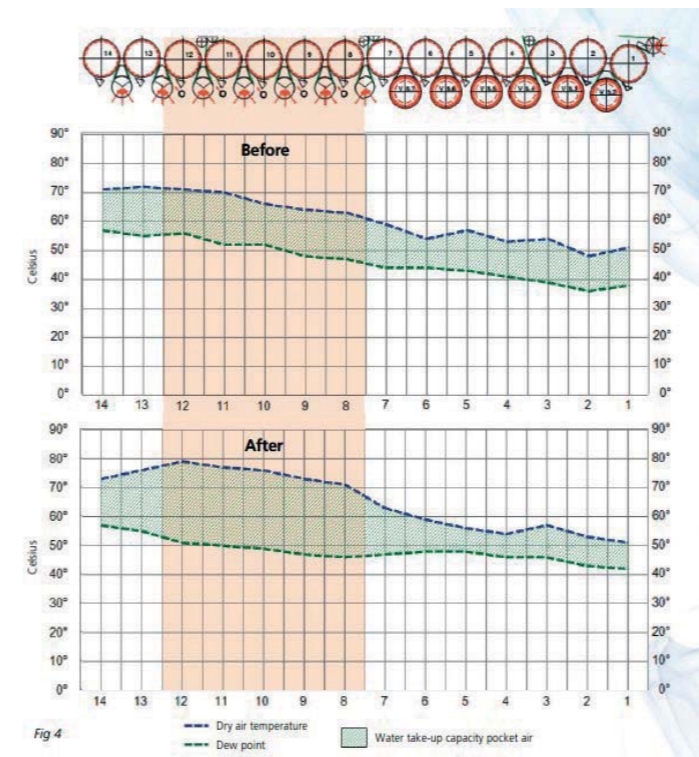


Figure 4

Steps 1 & 2: Fresh air to the stabilisers turned off (Figure 4)

- More supply air for the pocket ventilation, thereby:
- More drying capacity in the cylinder range 8-12
- No effect on cylinders 1-7, as there is no pocket ventilation

Step 3: Expansion of pocket ventilation = air doctors installed in pockets 4-6 (Figure 5) plus more supply air in the pockets which leads to higher drying capacity in this area

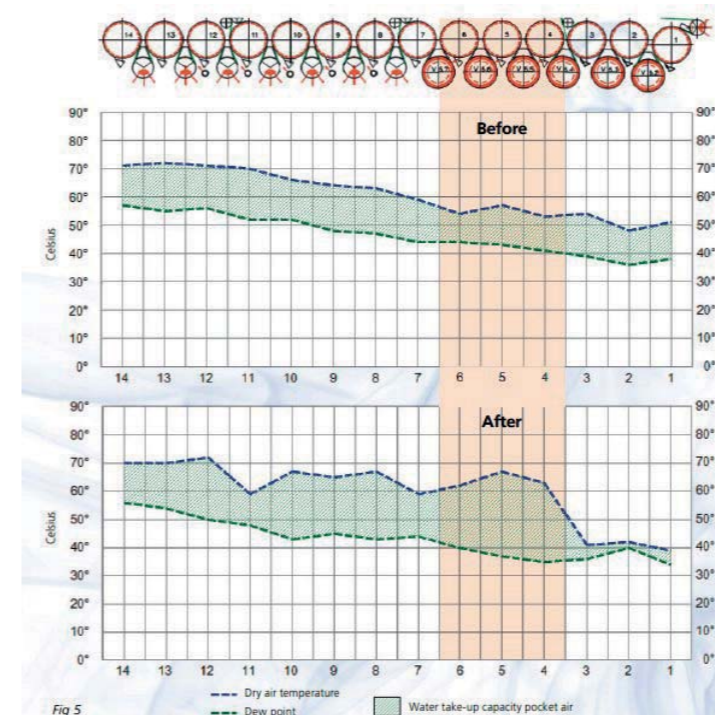


Figure 5

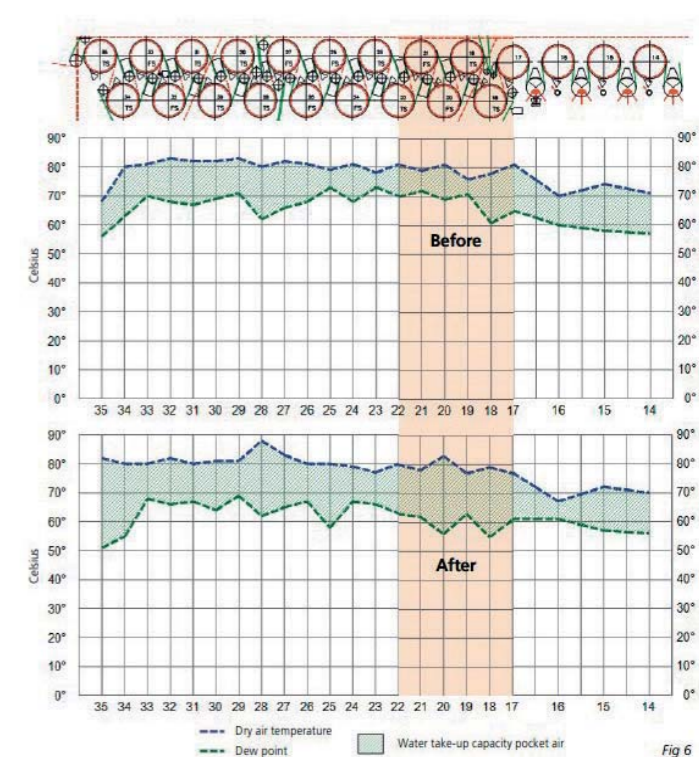


Figure 6

Phase 2: Dryer groups 1-5

Actions:

- Alignment of the blowboxes in the Slalom groups (1-4) was optimised
- Air doctors were fitted in the fifth group (Pockets 18-21) and connected to the existing supply air

Results:

Further stabilisation of the paper web, thereby:

- + Edge creases greatly reduced
  - + Scrap due to edge tears reduced from 17 to seven tonnes/year
  - more supply air for pocket ventilation (Figure 6) thereby:
  - + increased drying capacity
  - + more even moisture profile over the web width
- With these concrete findings Heimbach TASK could rapidly and precisely clear the obstructions to efficient sheet drying.

Results of the overall optimisation:

- More even moisture profile, thereby:
- Higher drying capacity
- Specific steam consumption reduced from 1,16t steam/t water to 1,12t steam/t water. This equates to a saving of €120,000/year on this machine
- Stabilisation of the sheet, thereby:
- + Edge cracks significantly reduced
- + Production increased by 7.32 tonnes/day, which equates to an annual sales increase of more than €1 million a year
- Machine speed could be increased by 50 m/min to 1,650 m/min

# The only way is up

Stora Enso Imatra in eastern Finland is one of the world's largest producers of packaging board for drinks applications. By using the latest ANDRITZ flash drying technology, the mill is also able to fully utilise its BCTMP plant. PPL reports

In late 2017, and after much deliberation and analysis, it was decided that Stora Enso's Imatra Mill could better utilise its bleached chemi-thermomechanical pulp (BCTMP) plant. What was needed was the flexibility to be able to feed the board and paper machines with whatever capacity they needed, and then any surplus could be diverted to a drying line.

This would then provide extra baled pulp that could be used internally or sold on the market. But there were challenges: the new drying line would have to be squeezed into a tight space between the BCTMP plant and the board machines. This meant a lot of creative engineering design: in practice, the only way was up.

"Before we installed the Flash Dryer from ANDRITZ we had a lot of capacity in the BCTMP plant that we were not using," explains Kalle Mäkelä, production manager for BM4 and BCTMP at Imatra Mills. "We were feeding wet pulp straight to the board and paper machines, but because of the extra capacity we knew we could be doing more and, of course, that meant making more pulp.

"We needed to be extremely creative when it came to finding space for a drying line."

## A trio of dewatering and drying technology

ANDRITZ has extensive experience in the designing of Flash Dryers for a range of fibres, with each installation optimised according to ▶





The ANDRITZ Twin Wire Press has been proven in many applications for all pulp types and is the best suited thickening equipment prior to a Flash Dryer

its application. The focus in terms of operating efficiency centres on low and optimum energy consumption, heat recovery, and low environmental impact, as well as providing parts for complete systems to ensure short start-up and ramp-up times.

As the leading supplier of flash drying systems with many installed around the world, ANDRITZ was selected by Stora Enso to deliver

the latest in drying technology for the project. The scope of supply included a Twin Wire Press, HC-Fluffer, and Flash Dryer – all well-proven technologies.

In the case of the Flash Dryer, ANDRITZ technology gives maximum energy efficiency and minimum environmental impact.

“One reason for this is the steam heat exchangers used, which give a possibility to combine steam

and gas heating,” says Ola Larsson, director of technology and R&D for pulp drying at ANDRITZ. “And in order to meet the high environmental requirements, including dust emissions, a scrubber system handles the exhaust air before release to the atmosphere. The design is also ready for future requirements such as low NOx emission.”

The Twin Wire Press and the

HC-Fluffer combined with the Flash Dryer make the perfect combination when it comes to consistent and high-quality pulp drying. The Twin Wire Press has been proven in many applications for all types of pulp and is particularly pulps that are difficult to dewater and to reach high discharge dryness – a prerequisite for obtaining lower thermal energy consumption in the flash dryer.

The HC-Fluffer breaks up fibre particles with very low energy input, and thus has no negative impact on fibre properties. The fluffed pulp, with its large accessible fibre surface, is a crucial requirement for high and even dryness out of the subsequent flash drying stage.

**“Stora Enso knew what they wanted”**

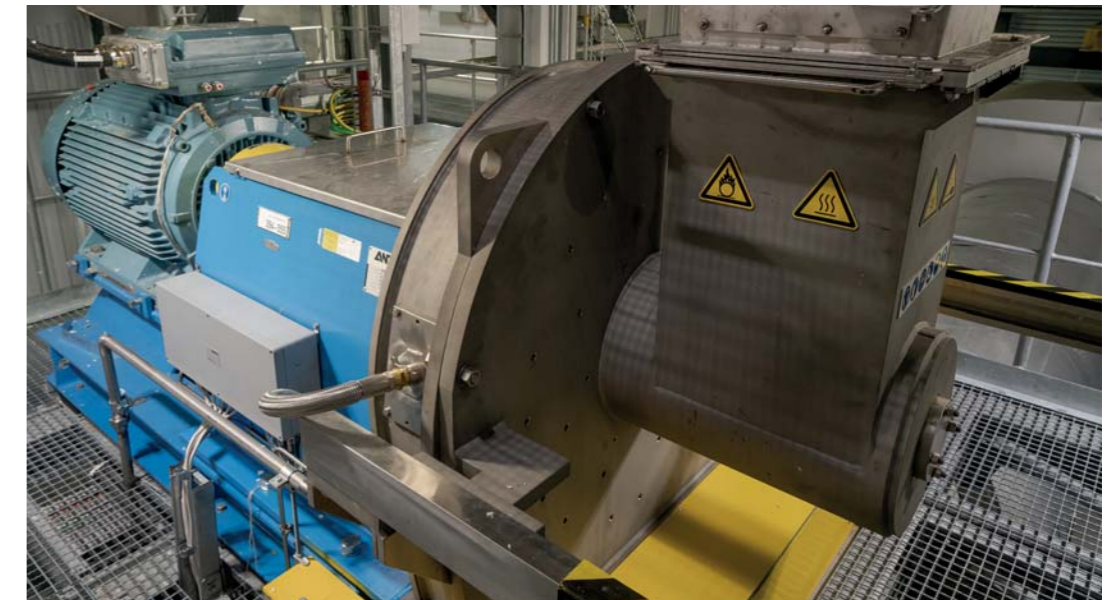
Stora Enso made the decision to go ahead with the new drying line at the mill in November 2017. Heikki Kangas, project manager for technology and investments at Stora Enso, says: “We selected a team of engineers and then started the works: we were determined to be involved as

much as possible and that our ideas be taken into account.

“This project was a challenge due to the tight space we had, and really the only way was up in the design of the drying line in terms of making it fit the space. It was also a project that would mostly take place in the middle of the Finnish winters.”

Stora Enso employed 3D modelling technology for the project, involving suppliers, operators, and consultants to make sure that all future needs were also taken into account.

“We had a lot of meetings, and we asked our operators to come up with all the ideas and needs they might have for the new line,” adds Mäkelä. “We asked them to compile a list of requirements in a spreadsheet detailing where any losses or disruption may take place on the new line. In the end, there was a list of over 200



The HC-Fluffer breaks up fibre particles. The fluffed pulp is well-prepared for the further drying process

requirements that we then sent on to the suppliers to the project. “The 3D design technology came in very useful during our meetings and discussions, ensuring that we didn’t miss any vital equipment of pipework, due to the tight space.”

Franz-Peter Kittel, senior product manager at ANDRITZ explains: “Of course, it is always better to find out early what is needed on these projects and, in this particular project; Stora Enso had a lot of good ideas. The operators at

the mill really knew what they wanted, from beginning to end.”

**Flexibility is the key**

Commissioning and start-up of the new drying line took place in early January 2019 and went mostly



Stora Enso Imatra and ANDRITZ together developed how to locate the Flash Drying plant in an efficient space in the mill. The new Flash Drying Line was fitted into the overall layout



Equipment is easily accessible for service and maintenance, despite the tight space



**Close cooperation is vital in order to secure a successful execution and operation of the installation: Magnus Holmqvist, area sales manager at ANDRITZ and Kalle Mäkelä, production manager for BM4 and BCTMP at Stora Enso**

according to plan, with the start-up of the Twin Wire Press and Flash Dryer particularly going well, according to Mäkelä, who said, "What we were most impressed with was the start-up curve; we quickly ramped up production to maximum level, and the quality of the pulp we are producing is superb.

"The most important feature for us is the one of flexibility, as

we were very dependent on what happened on the board and paper machines. We now have a BCTMP plant that we can run continuously at high capacity, which is a lot more economical than increasing or decreasing capacity, depending on the demand of the board machines."

*More information from Thomas Hallberg at [thomas.hallberg@andritz.com](mailto:thomas.hallberg@andritz.com)*

### The latest in safety technology

A key area of the project was health & safety, for both the whole project and the drying line. ANDRITZ has paid specific attention to added safety features on its latest drying lines, including the wire changing procedure that has been changed from a manual to a semi-automatic system.

Thomas Hallberg, pulp drying project manager at ANDRITZ says, "The equipment we have supplied to Stora Enso comes with the very latest in safety technology and is the safest drying line around."

This fits well with the serious culture health & safety rules when working with Stora Enso, and the attention to detail when carrying out this project was very impressive.

"We have the same culture when it comes to health & safety, which extends beyond our projects and into our technology and equipment."

ANDRITZ statistics from the project, which ran from August 2018 to January 2019 in an outdoor, winter environment involving challenges from heavy lifting to snowy and slippery conditions, showed there were zero accidents, injuries, and medical or first aid treatments.

Kangas adds: "The safety statistics from across this project were very impressive; in fact, the safety record during the project was even better than for the mill itself."



**"The equipment we have supplied to Stora Enso comes with the very latest in safety technology and is the safest drying line around," says Thomas Hallberg, pulp drying project manager at ANDRITZ**



**"This project was a challenge due to the tight space we had, and really the only way was up in the design of the drying line in terms of making it fit the space," says Heikki Kangas, project manager for technology and investments at Stora Enso**



**"We were feeding wet pulp straight to the board and paper machines, but because of the extra capacity we knew we could be doing more and, of course, that meant making more pulp," says Kalle Mäkelä, production manager for BM4 and BCTMP at Stora Enso Imatra**

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# Making the right choices

**Wet pressing has an impact all the way from paper machine drying capacity and web runnability to end product properties. The secret of process efficiency often lies in making the right choices for the press section consumables. Juha Ruotsi and Leena Silakoski report**

**W**hen the sheet arrives at the press section from forming, the dry content level is about 20 per cent. In the press section, the sheet dry content increases to about 50 per cent as pressure removes the water from the sheet.

Simply put, the water from the sheet is pressed into the press felt, which either carries it into the Uhle box, where it is sucked in by the vacuum (Uhle box dewatering), or removed from the sheet to the nip, and through the felt into the grooves of the roll by centrifugal force (nip dewatering).

**Press section consumables offer many ways to efficiency improvements**

There are many parameters which affect the wet pressing process, providing plenty of options for optimisation and improvement. These include machine and runnability issues, such as nip pressure, press felts

and shoe press belts, as well as rolls and roll covers.

Typically, press dewatering improvement in machines using the oldest equipment technologies requires significant capital investment – in a shoe press rebuild, for example. However, basically all press sections, despite the level of

current equipment, also offer improvement potential with less investment. But how?

The answer is simple. Every machine uses press felts, roll covers, doctoring products and many other consumables that demand periodic replacement. So why not optimise them as part of the regular service?

**Typical areas of improvement related to machine consumables**

- 1) *Optimum nip and Uhle box dewatering:* Nip dewatering offers benefits such as shorter felt break-in time and the possibility to allocate vacuum capacity to other needs besides Uhle boxes. The most efficient dewatering process typically combines both nip and Uhle box dewatering. In addition, felts play a key role when adjusting the dewatering direction between nip and Uhle box dewatering. On rolls and belts, the open area on the roll surface allows for adequate handling of the water from the felts.
- 2) *Nip pressure level and nip pressure CD profiles:* Web CD moisture profiles can be enhanced by the optimisation of roll crowns and settings with deflection compensated rolls. Insufficient nip pressure levels and profiles shorten roll and

**Typical results achieved**

- 1) A paper machine speed increase by 30 m/min
- 2) Total drying energy consumption down by 6 per cent
- 3) Number of breaks at press section down by 50 per cent
- 4) A felt lifetime increase from 30 to 50 days

**Optimisation of press section consumables can significantly improve wet pressing efficiency**

felt lifetimes, and decrease production efficiency due to extra maintenance shut downs.

3) *Nip vibrations:* Nip vibrations often originate from rolls and felts, and may be corrected with optimisation. Vibration problems especially affect machine runnability and roll maintenance requirements.

**Examples of wet pressing optimisation in practice**

A simple target is to improve wet pressing efficiency by changing

the dewatering direction. Conventionally, redirecting refers to shifting from felt to nip dewatering. This means that instead of vacuuming, more water is conducted through the voids onto roll surfaces and water collection pans. The typical benefits include improved dewatering, faster felt start-ups and optimised use of vacuum capacity.

To achieve these results, the felt and pressing rolls must be aligned. In practice, this consists of adjusting roll cover hardness, roll surface groove and hole patterns, and felt permeability and density. All directly-connected equipment must also be checked and further adjusted.

The prevailing situation on a machine often has several areas requiring improvement. This is even more challenging, because in many cases improving one area causes deterioration in another. Take a machine producing fine paper: The general aim is to improve dewatering to save

drying energy costs. However, emerging issues include suction roll shadow marking, CD moisture profile and press vibration problems, as well as suction press roll hole clogging.

This extensive range of problems leads to a situation where success can only be achieved when the timing of actions, the magnitude of adjustments and the team's goals are perfectly balanced and aligned.

**The power of teamwork and service agreements**

The power of teamwork cannot be understated when discussing improvement projects in the press section. The biggest obstacle in running improvement projects in the given time and with the desired results may not be related to technical questions but to the efficient cooperation of people from different departments and companies.

Production, maintenance, purchasing, engineering, process technology, finance – you name it – all these operations have their own features and incentives in how work and business should be undertaken.

To make things clear for all parties, a Valmet service agreement with integral press section performance

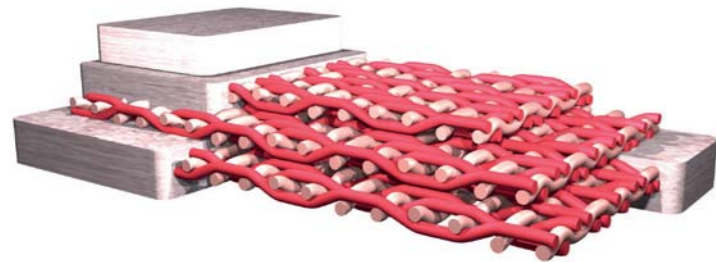
Wet pressing optimisation success stories	
Customer	Results
Thai Cane	Paper Steam consumption decreased from 45.6 to 40.2 tonnes/h
Cartiere del Garda	Machine speed increased by 30 m/min; press felt lifetime increased from 30 to 50 days
SsangYong C&B	Five per cent decrease in steam consumption
Vijay Anand Kraft Papers	Web dryness after press increased from 49 to 51 per cent
Green Forest Paper	Machine speed increased by 60 m/min

improvement may be a beneficial solution. The agreement usually contains the regular service operations for a certain period and the improvement project based on the customer's requirements. The idea is to create results and share the spent resources risk through mutual understanding. *More information from: Juha Ruotsi, Global Technology*

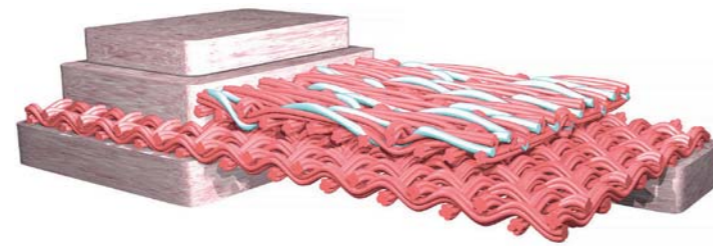
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## Valmet's key products for wet pressing optimisation



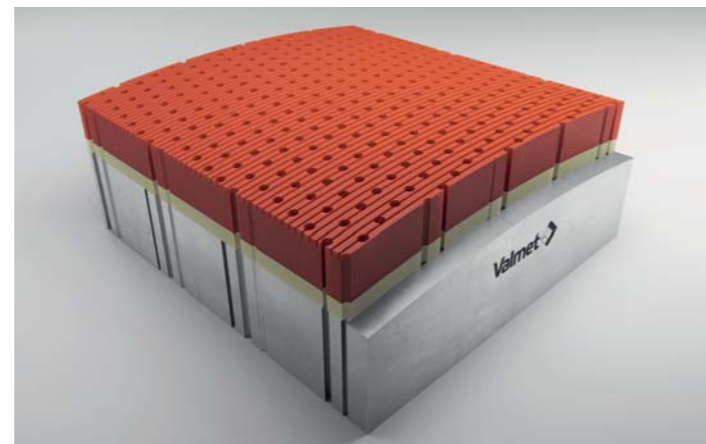
**Press felts**  
 Typical felt for efficient Uhle box dewatering (Valmet Press Felt LMR) with a heavy open structure and a high void volume.



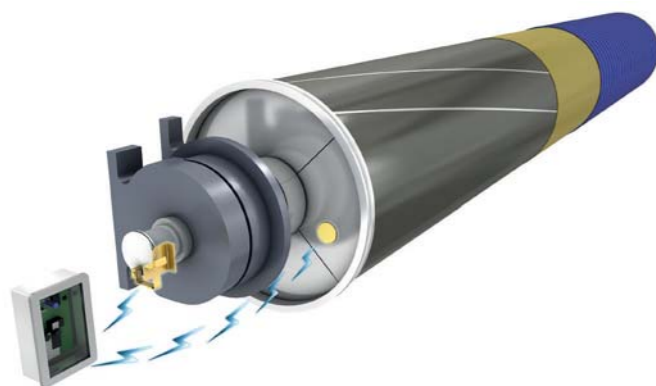
**Press felts**  
 Typical felt for effective nip dewatering (Valmet Press Felt SPM) with a light but more dense structure, low in void volume and caliper.



**Belts for shoe presses**  
 Valmet Black Belt with tailored surface topography for efficient dewatering.



**Press roll covers**  
 Valmet Press Roll Cover PF-V for suction press rolls with tailored hardness and surface topography for efficient dewatering.



**iRoll measurements**  
 The Valmet iRoll product family for profile improvements: tools to measure nip pressure profiles in real running conditions to enable the appropriate correction actions for better efficiency and quality.



**Roll upgrades**  
 Valmet Suction Roll Upgrade Shell Flow H: Suction roll hole cleaning system for enhanced dewatering.

# Mondi Group benefits from Voith's streamlined web-based procurement

**M**ondi Group is one of the latest users of the Voith Paper Webshop, which was launched in 2017 and has since been adopted by paper makers in 96 countries.

In the past, Mondi purchasing staff had used electronic catalogues to order replacement parts, raw materials or office supplies. But Wolfgang Stramitzer, who headed the project in his capacity as project manager for procurement excellence at Mondi, stresses that the Webshop developed by Voith has little in common with the eProcurement processes previously used.

Stramitzer explains: "Thanks to the wealth of extra services like 24/7 availability or order tracking, the Webshop offers significantly more benefits. For me it is an outstanding model that further improves the efficiency of our group."

For example, order tracking allows Mondi to see exactly when an order will arrive. Downtime can be planned precisely and kept as short as possible, increasing the availability of the machine.

At Mondi's Neusiedler facility, procurement chief Markus Wenzl says the Webshop is also an important tool for the maintenance of the system.

"The Webshop offers a high quality of data and simple and secure access to replacement parts. In addition, information like pre-populated spare parts lists, customised packages and the ordering history help us keep production running," says Wenzl.

A further key to the success of the Webshop is the



personalisation of access, which makes the ordering process much simpler. Item numbers in the Webshop correspond with Mondi item numbers. In addition, the system stores the details of the specific wear and spare parts for each of the customer's paper machines.

Because paper machines have a high degree of individualisation, this function allows significant acceleration of the ordering process. Purchasing staff no longer need to select a product from a range in a catalogue but will directly locate the correct parts for the respective machine. Moreover, a lot of information on the machine, from the original delivery to the ordering history and operating instructions are integrated into the personalised section of the Webshop.

Seamless integration of

Thanks to the wealth of extra services like 24/7 availability or order tracking, the Webshop offers significantly more benefits. For me it is an outstanding model that further improves the efficiency of our group

the Webshop into Mondi's purchasing system enables optimised processes and reduces administration effort. At Mondi Group, the integration of the

Webshop into the SAP Ariba platform will take place in the first quarter of 2020. Currently, the Webshop is still integrated into an existing Mondi catalogue system through an OCI interface and is being used in the Neusiedler pilot paper mill at Hausmending in Austria.

"Usually, the supplier comes and shows us what it has," says Wenzl. "Voith, on the other hand, asked us what we need."

The Mondi Group's experience with eProcurement also helped. Björn Kleigrew, project manager from the Voith Webshop team, comments: "It was fun to work with Mondi. You really noticed that the company has a lot of experience in eProcurement and therefore knows exactly what is needed to make this kind of project a success for both parties."

## Tissue manufacturing benefits for new PrimeLineVRT



**H**igher dryness immediately after the press section is the benefit of the latest machine from Andritz for producing dry crepe tissue.

The PrimeLineVRT features a vertical CrescentFormer in the forming section that enhances dewatering of the fibre web. This

enables higher dryness after the press section and an increase in paper caliper.

Depending on the grade and basis weight of the paper produced, Andritz says that between two and four additional percentage points of dryness can be achieved after the press section compared to standard CrescentFormer configurations.

“The advantage of this new technology is that we do not need additional fabrics and fabric loops or any extra space in the basement for installation of the equipment. This results in lower building costs as well as easier operation and maintenance, compared to similar technologies on the market,” says Stefano Marengo, director of

**The PrimeLineVRT features a vertical CrescentFormer in the forming section**

PrimeLineTIAC and tissue R&D at Andritz.

The PrimeLineVRT was developed and extensively tested at the Andritz Tissue Innovation and Application Center in Graz, Austria.

## Fabric treatment increases start-up speeds for tissue lines

**A treatment for press fabrics launched by Voith is said to increase efficiency on tissue-making lines by speeding up start-up times.**

With surface enhancement, UpElement improves dewatering during the start-up process. As a result, manufacturers benefit from a higher production yield over the run of one felt cycle.

UpElement is one of the Element-

Series of add-on products, the modular treatment complementing Voith's existing press fabrics portfolio for tissue, and is said to fit in well with the PressMax AdvancedProducts.

The technology of the felts provides a higher saturation capability during start-up which ensures optimum dewatering of the paper web. UpElement makes start-up up to 50 per cent faster

compared to standard press fabrics, without compromising operational stability or long-term performance.

By enabling a machine to reach full speed faster, UpElement keeps energy consumption to a minimum, and delivers more output per felt. Depending on the operating setup, it can increase output by an additional €100,000-worth of saleable product per year.

“UpElement has proven itself

in several trial runs resulting in immediate repeat orders from international tissue manufacturers,” says Susanne Klaschka, global product manager at the press section of Voith Paper. “We are proud to provide customers with yet another innovative solution to make tissue production even more efficient, more profitable and more sustainable.”

## Service packages launched by Voith

**T**hree new products have been added to the Voith range of Measurement and Diagnostic Services.

MobilLab is a mobile analysis laboratory that enables the investigation and optimisation of stock quality on site. With the SpeedUp Certificate, Voith is examining the possibilities for paper manufacturers to operate their machines above the original design speed, in consideration of the machine-dynamic behaviour.

High-precision digital images of the current condition of production facilities can be produced with 3D Scan. With this tool, Voith experts on site can create a digital spatial image of a machine and its environment, and



record the actual situation of the machine to an accuracy of one millimetre at a scanning distance of ten metres and a maximum range of 360 metres. The data obtained can be stored as point clouds in various formats and then

processed for use as a template for a rebuild project, installation check or for measurements on a PC.

As part of its Servolution range, Voith's Measurement and Diagnostic Services are tailored

specifically to the requirements of the paper industry. Plant operators benefit from the mechanical and technological expertise of a full-line supplier and service experts with more than 10 years industry experience on average. This means that the service ensures both smooth operation and improved economic efficiency of the system.

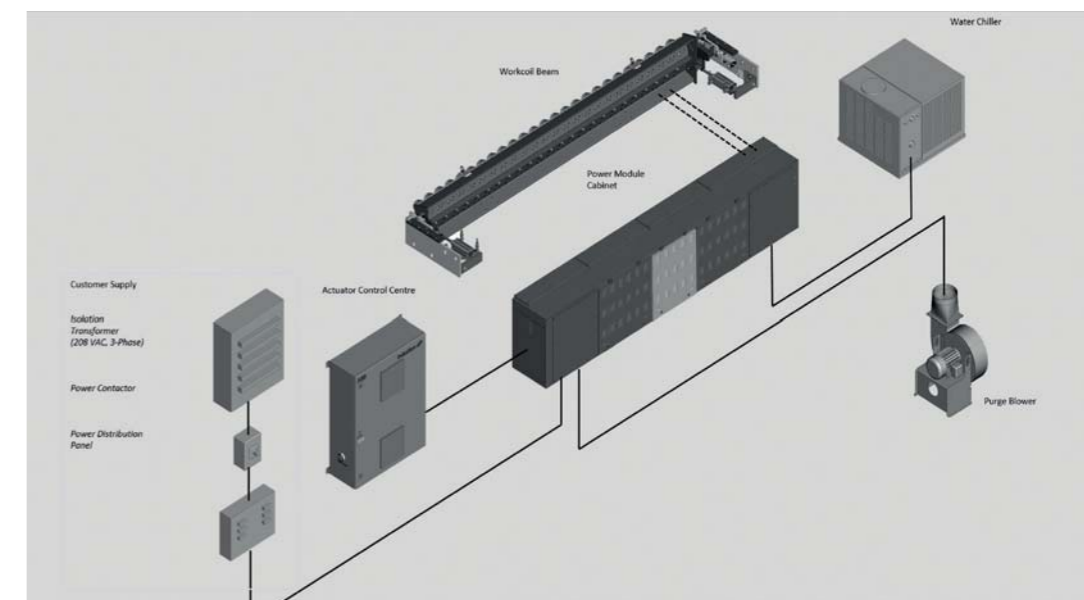
“Through our Measurement and Diagnostic Services, we are offering paper manufacturers tailored solutions that are state-of-the-art,” says Voith's Stefan Natterer. “And we are continually adding new technologies and services like MobiLab, SpeedUp Certificate and 3D Scan to our range.”

## Heating actuator system for CD caliper and gloss profile control

**What is described as a powerful, efficient, rapid-acting and safe method for controlling caliper on paper machine calenders has been launched by ABB.**

Induction xP Plus ensures efficient induction heating up to 100 kW/metre in a highly-targeted area, providing flexibility for power density and heating zone width. The caliper profiling system offers hybrid control zone configurations of 60mm, 75mm or 120mm, enabling operators to target higher precision heat distribution at the edges, where it is often critical, as well as increasing heat density to get on spec quicker – even after sheet breaks.

ABB product manager Frank Condra explains: “Induction xP Plus significantly enhances our offering as the only actuator featuring ABB's unique power



module technology, hybrid zones for targeted heat distribution and flexible layout configurations.

“The specification is developed to maximise paper quality and productivity, but crucially, includes

an off-machine power module, enabling Induction xP Plus to meet the most stringent industrial safety requirements.”

An evolution of ABB's Induction xP actuator, the new version uses

fixed frequency/soft switching technology which, in tandem with a lower voltage design, ensures negligible switching losses and lower stresses on electronic components.

## Retention measurement improved by latest sensors from ABB

**A** new range of sensors that provide accurate measurement of total and/or ash consistency for better wet end measurement and control in pulp and paper processes has been launched by ABB.

The KPM KC9 Optical Consistency Transmitter sensors are suitable for pulp, paper, board and tissue manufacturers using virgin or recycled raw materials, particularly those using ash fillers, where only optical sensors are effective for measuring ash consistency.

Available as either inline or



bypass sensors, the KPM KC9 family offers the widest range of sensor options currently available and is best suited to measure the lowest consistency ranges. The sensors permit maintenance while processes are running, unlike other consistency sensors that

require a shutdown and emptying of the process pipe.

The sensors work in tandem with ABB's KPM KRA/KRT Retention Measurement System, used to monitor and control paper and board machine retention. Available in two

options, the KRA unit measures white water total consistency as well as ash consistency. The KRT unit measures total consistency only.

"These new sensors employ unique measuring principles to ensure each application is covered cost effectively without compromising measurement accuracy," says ABB's Per Sandstrom. "The sensors provide better control of deinking processes and machine wet end, enabling the highest proportion of on-spec product with limited maintenance and lower installation costs."

## Consistency measurement goes digital at Valmet

A redesigned Microwave Consistency Measurement (MCA) system has been launched by Valmet for pulp and paper makers. The patent-pending machine is now operated by

digital electronics with direct sweep detection to offer higher sensitivity and accuracy than analogue designs.

The MCA is complemented by a new Twin Blade sensor along with

a newly-redesigned Flow Through sensor, enabling installation in larger pipe diameters. The Flow Through sensors are interchangeable with earlier installations.

With a wider applicability, the Twin Blade sensor can also be used to measure unscreened pulp. The sensor's completely-redesigned clamp-mounted probe is suitable for the much higher conductivity environment of

chemical pulping.

"This new measurement technology is a leap forward in terms of performance and usability. Valmet has long been the market leader in microwave consistency measurements with more than 6,000 deliveries. The new Valmet MCA now leads the way for all pulp and paper needs," says Marko Heikkinen, product manager for the automation business line at Valmet.



## Range of internet tools for improved efficiencies

A range of data-driven industrial internet tools launched by Valmet for pulp, board, paper, tissue and energy producers offer advanced monitoring and prediction applications, process controls, simulators and remote services.

The Valmet Industrial Internet (VII) range is said to efficiently utilise data to reduce energy

consumption, improve chemical and environmental efficiency, optimise pulp and paper quality, increase process reliability, maximise production and enable efficient management of the customer's equipment fleet.

Remote services from Valmet's eight Performance Centers are a key part of the VII services. These make Valmet's expertise easily

available for customers through remote connections and tools.

Customers can collaborate with Performance Center experts, access the Industrial Internet applications, follow-up their Key Performance Indicators and see performance reports through the Valmet Customer Portal.

Jari Almi, vice president for industrial internet within the

automation business line at Valmet, said: "Ultimately, the aim is to empower our customers to move toward autonomous plants or mills, which will result in significantly more efficient production processes and operations. We want to engage our customers in a dialogue with data to move their performance forward."

## UPM orders new 2.1m-tonne pulp mill for Uruguay

**F**inland's UPM has ordered a state-of-the-art eucalyptus pulp mill from Andritz for construction near Paso de los Toros in central Uruguay.

The mill, with energy-efficient and environmentally-leading equipment and processes for all main process islands in fibre production and chemical recovery, will have capacity to produce 2.1 million tonnes of pulp a year when it starts up in the second half of 2022.

The project will include:

- A complete wood processing plant maximising the use of various eucalyptus species.
- The world's largest single-line Fiberline, including LoSolids continuous cooking with efficient heat recovery and washing and bleaching technology based on DD-Washers, all contributing towards high-quality pulp, highest operational time, and low chemical consumption, thus having lowest environmental impact.
- A new EvoDry pulp drying



This is how the new UPM pulp mill at Paso de los Toros, Uruguay, will look

system with two energy-efficient pulp drying lines based on the high-capacity Twin Wire Former technology.

- An energy-efficient black liquor evaporation plant designed for high availability and increasing the overall production and efficiency of the plant.
- A Herb recovery boiler that features energy-efficient flue gas cooling and feed water preheating technology to

maximise steam production for power generation.

- A biomass power boiler based on high-quality EcoFluid bubbling fluidised bed technology. The project includes a biomass-fired boiler with flue gas cleaning and other auxiliary equipment. The power boiler also supplies steam for the mill during start-up. The fuels used are bark, harvesting residues and sludges from the mill.

- A complete white liquor plant.

The new recausticising plant includes efficient green liquor filtration with LimeGreen filters – producing clean green liquor and minimising waste to landfill. The new lime kiln plant includes two lime kilns with high-efficiency LimeCools.

A complete pulp mill at Fray Bentos in Uruguay was started up in 2007 by Andritz and is now owned by UPM.



Andritz also delivered UPM's first pulp mill in Uruguay, which was started up in 2007 in Fray Bentos

## PrimeLine tissue machine started up by Arkhbum in Russia



**A** new tissue machine for the manufacture of high-quality facial, toilet, napkin, and kitchen towel grades made from 100 per cent virgin pulp has been started up by Andritz at Arkhbum Tissue Group at Vorsino in the Kaluga region of Russia.

The PrimeLine W6 line – with a

design speed of 2,100 m/min and a paper width of 5.6m – includes stock preparation, re-evaporation plant, hall-ventilation, automation, and electrification,

The combination of a 16ft PrimeDry Steel Yankee and the latest PrimePress XT Evo shoe press technology is said to give a high drying capacity and achieves

cost savings and operational flexibility compared to systems with conventional presses and cast Yankee dryers. The re-evaporation system that feeds energy back to the production process brings additional savings.

The project also included stock preparation with an approach flow system. The centrepiece

of the stock preparation line is the Papillon refiner, which treats fibres gently in the cylindrical refining zone in order to achieve superior fibre properties at low energy consumption. Andritz also provided process pumps, piping, instrumentation, electrification and automation as well as on-site services.

## Valmet to supply final forming section at Skoghall Mill

The final stage of a forming section that is being rebuilt at Stora Enso's Skoghall Mill in Sweden is being supplied by Valmet.

Target of the four-stage development project is to further improve production capabilities

of the mill's forming section.

"Innovation and continuous long-term development describe well our cooperation with Valmet. Together we came up with a solution that fulfils our targets for this upgrade project," says Marie Morin, mill director at Stora Enso.

"Stora Enso Skoghall Mill is committed to long-term development of its machines. This type of cooperation is based on trust and openness and we look forward to successfully conclude the last phase of this project," says Kirsi Peltola, sales

manager at Valmet.

Valmet supplied the first stage in 2017 and has since then upgraded other parts of the forming section step-by-step on an annual basis. The last stage of the rebuild will be started up at the end of 2020.

## Simulation and training models ordered for Klabin's Puma II project

**K**labin in Brazil has ordered simulation models and an operator training simulator from Andritz for its Puma II pulp mill project at Ortigueira, in the state of Paraná.

Andritz Automation will be responsible for development of the dynamic simulation models, DCS checkout (DCS logic test and validation) and operator training simulator (OTS).

A proprietary Ideas simulation tool will be used to model the recovery boiler no2 and power boiler no2 supplied by Andritz and the evaporator no2 supplied by another vendor. The simulated models will be used to test and verify process design concepts, identify and correct errors in the control logic and provide realistic, hands-on training modules for



the operators, helping Klabin to achieve a faster and smoother start-up. In addition, the simulator will enable the risk-free training of operators in the core processes prior to operating the plant.

"The well-proven Andritz Ideas

simulation tool has been used during commissioning, start-up and training in almost all pulp and paper greenfield projects in Brazil since 2002," says Leonardo Alves, application and sales manager in Brazil for the automation division.

For the Puma II project, Andritz

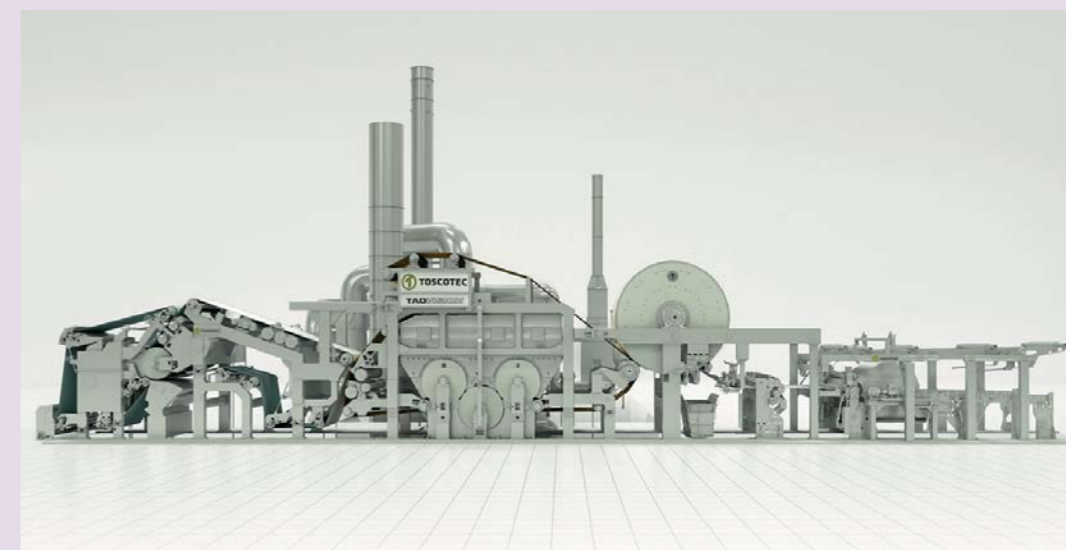
will also be supplying energy-efficient and environmentally-friendly pulp production technologies and key process equipment, including the wood processing plant, recovery boiler, power boiler and white liquor plant.

## Mexico's Essity starts up new tissue making line

Tissue maker Essity has started up a new line at its Ciudad Sahagun mill in the Hidalgo region of Mexico.

The Tadvision tissue line was provided by Italy's Toscotec in a turnkey project that included stock preparation, vacuum plant, complete electrification, extensive automation package, and all necessary auxiliary systems. A key feature of the line is a steel Yankee dryer.

Roberto Caballero, vice-president for manufacturing at Essity Latin America, says: "With our first TAD machine at Essity Mexico, we aim to increase the pace of innovation to deliver premium and more



environmentally sound products to our customers and consumers in the region."

Toscotec sales director Marco

Dalle Piagge adds, "The new Tadvision machine is state-of-the-art designed for efficient air-through drying. We are happy

to see that the mill is achieving very good results both in terms of machine efficiency and of energy consumptions."

## Pulp mill technology and automation for LD Celulose pulp mill project in Brazil

**K**ey process systems for the new 500,000 ton per year dissolving pulp mill being constructed in Brazil by LD Celulose are being supplied by Valmet.

The project is being built by a joint venture between Lenzing and Duratex at the cities of Indianópolis and Araguari in Minas Gerais state. The two companies have 51 per cent and 49 per cent respective stakes in the investment of about US\$1.3 billion.

Valmet's contribution to the project will include a fibre line, a pulp drying and baling line, an evaporation plant, a white liquor plant and a mill-wide automation system.

Start-up of the mill is planned for the first half of 2022. When it is ready, LD Celulose SA will employ around 1,100 people to operate the industrial plant and the plantations that will supply it. The dissolving pulp is a key raw material for manufacturing Lenzing's wood-based textile and speciality fibres.

The fibre line will feature TwinRoll technology for high washing efficiency with low chemical and water consumption. The pulp drying and baling line is



Site of the 500,000-tonne dissolving wood pulp mill being built at Minas Gerais state in Brazil

said to secure flexibility and high-quality pulp with easy operation supported by Valmet Quality Control System.

The evaporation plant features Tubel technology for high availability and produces clean condensate quality for 100 per cent reuse in the mill. The white liquor plant includes recausticising and a lime kiln and is designed for high reliability and lower maintenance.

"LD Celulose SA will bring a positive socio-economic impact throughout the region. We are working with the best environmental practices and with leading companies in the pulp industry, such as Valmet," says Luís Künzler, chief executive of LD Celulose SA.

Stefan Doboczky, chief executive of Lenzing Group, comments: "Wood-based cellulosic fibres offer an important contribution

to enhance sustainability in the textile industry and this investment is in line with our growth strategy and a key milestone to structurally strengthen our cost leadership position. In planning the new production facility, particular importance was given to sustainability aspects. The plant will be among the most productive and energy-efficient mills in the world."

## Metsä Fibre prepares the site for its Kemi bioproduct mill

Preparatory work that will turn Metsä Fibre's Kemi bioproduct mill in Finland into what it says will be the most efficient wood-processing plant in the northern hemisphere was completed as planned in January.

Representing an investment of

€1.5 billion, the new mill will be the largest project in Finland's forest industry if the decision is made to go ahead in the summer.

The preparatory work included the excavation works, felling trees, demolition of buildings and re-routing of

existing electrical and pipeline connections at the mill site in Sahansaari.

Operating without fossil fuels, the mill is expected to yearly produce 1.5 million tonnes of softwood and birch pulp, among other bioproducts, consuming 7.6 million cubic metres of wood.

Metsä Fibre says the new mill could have a significant impact on the Finnish national economy, employing around 2,500 people throughout its direct value chain in Finland, including 1,500 new jobs. It will replace the current pulp mill which will be shut down.

## Chloride removal systems for RAPP in Indonesia

**R**iau Andalan Pulp & Paper (RAPP), one of the largest paper mills in south east Asia, is having chloride removal systems installed by Veolia Water Technologies to optimise the mill's recovery process in the transformation of hardwood cellulose into pulp for textile fibres and fine paper making.

The mill at Kerinci is owned by Asia Pacific Resources International Ltd (APRIL), the world's second-largest producer of bleached hardwood kraft pulp.

RAPP carries out pulping washing and cleaning steps which produce an organics-rich liquid stream. When this liquor is burned in the recovery cycle, it generates renewable power that



The Riau Andalan Pulp & Paper mill at Kerinci where chloride removal systems are being updated

helps the mill become energy self-sufficient. Over time, however, the process creates chloride and potassium accumulation which, if not tightly controlled, causes

corrosion and boiler fouling, thereby increasing maintenance costs.

The chloride removal process will treat 550 tons of precipitator

ash per day using Veolia's Enhanced Chloride Removal Process. Using crystallisation technology, this is designed to yield the best control of sodium recovery and chloride and potassium removal steps while minimising energy consumption and related emissions.

"Once again, we are pleased to work with APRIL and build on the success we have achieved together over the years. Veolia's chemical-saving HPD technologies will be key components in the expansion of this important production site in Riau helping its pulping operations become more resource-efficient and sustainable," said Jim Brown, chief executive of Veolia Water Technologies Americas.

## Rebuild for Umka's board machine in Serbia

The Umka Cardboard Mill in Serbia is having its PM1 board machine rebuilt by Valmet.

The rebuild, which will increase the line's capacity, is scheduled for completion in the second half of 2021.

The machine will produce white lined chipboard grades with a basis weight range of 160-450 g/sqm. With a wire width of 3.7 metres and a design speed of 440 metres per minute the expected capacity will be 620 tonnes a day.

Umka's managing director Milos Ljusic commented: "This rebuild is one of the most important strategic decisions we have made in the 80-year history of the mill. We are pleased that this project is going to be completed by Valmet, a global



The Umka and Valmet teams at the Umka 80-year anniversary celebration. From left: Kari Räisänen (Valmet), Milos Ljusic (Umka), Jadranka Priljeva (Umka), Staniša Lukić (Umka), Nikola Pejović (Umka) and Pekka Turtinen (Valmet)

leader in the supply of process technology in the paper industry.

I strongly believe in the success and bright future of Umka

Cardboard Mill, with planned capacity of over 200,000 tonnes, further quality improvements and wider product portfolio."

The project will include major changes to the wet end of the PM1 with broke collection, approach flow system and three OptiFlo Foudrinier headboxes to meet productivity and quality requirements, as well as an OptiFormer Multi forming section with multiple Foudriniers and modifications in the press section.

Umka Cardboard Mill has been a part of KappaStar Group since its privatisation in 2003. The mill's production capacity is currently 130,000 tonnes per year, of which 80 per cent is exported to more than 30 countries in Europe.



## Sun Paper orders drive systems for its mills in Laos and China

**P**ulp and paper maker Sun Paper has ordered drives from ABB for its mills in Laos and China.

The first order for Sun's mill in Laos are for new drives on its PM1 and PM2 machines while the second includes a synchronous motor, motor starting equipment, excitation protection control and process drives for chemical pulp production at its plant in Shandong in eastern China.

The project in Laos will provide capacity to produce 800,000 tons of paper per year from the two lines, which have a width of 7.3 metres and are designed for speeds of up to 1,200 metres per minute.

ABB will supply a distributed PMC800 multi-drive control system with installed capacity of 41,000KW and more than 120 drive points. For the chemical pulp project in Shandong, ABB will supply two sets of 14MW



synchronous motors, medium voltage motors and a drive system.

"Competition for these prestigious projects was understandably fierce, but by optimising our technical proposal and demonstrating our success

with previous projects of a similar scope and scale, our China Pulp and Paper team was able to provide the best solution," said YueMing Liu, pulp and paper industry lead for China at ABB.

"ABB also provided the automation solution for phase 1

of the Laos Project, which won the Modern Manufacturing 2018 Solution Excellence Award. By establishing mutual trust in multiple projects with Sun Paper, we hope to provide a solid foundation for our future relationship."

## Digital control from ABB for the Double A pulp mill

Digital control systems are being supplied by ABB to Double A for its pulp mill at Prachinburi in Thailand.

The contract for ABB's Ability Advanced Process Control (APC) includes full supply and implementation of OPT800 Caust and OPT800 Lime APC applications for better control of the causticising and lime production processes.

Both APC applications use multivariable Model Predictive Control (MPC) algorithms integrated into an Ability System 800xA distributed control system. OPT800 Caust stabilises the white-liquor quality by controlling the lime feed and green liquor, causticising efficiency and production rate changes. OPT800 Lime optimises kiln operations to reduce energy consumption and

emissions, increase returned lime availability and decrease residual carbonate variations.

"APC represents the future for the pulp and paper industry, with powerful applications to help reduce material costs while maintaining quality and productivity," said Thanom Saenchompoo, sales manager at ABB. "One of the main benefits of APC is the ability for operators

to make changes to processes, observe their impact and keep fine tuning until they are ready to implement those changes in the actual operation."

The installation and commissioning for the OPT800 Lime APC has just been completed while the OPT800 Caust APC will be finished by end of the first quarter in 2020.

Completing the order is an Ability Collaborative Operations service agreement, which will help monitor and sustain the performance of the batch digester, lime kiln and causticisers.

## Second pulp mill for Tamil Nadu Newsprint in India

**T**amil Nadu Newsprint and Papers Ltd (TNPL) has ordered a cooking and fibre line from Valmet and a complete recovery island from Andritz for its new Unit 2 mill at Mondipatti in the Trichy District of India.

The site has a multilayer board machine producing 200,000 tons per year, which has been in operation since 2016. The new pulp mill will have a capacity of 165,000 tons per year of bleached hardwood kraft pulp, and start-up is planned for the first quarter of 2021.

The coated board is made from bagasse – a by-product of sugar manufacturing – for use in pharmaceutical, health care, food, cosmetics and consumer packaging applications.

Valmet has previously supplied two fibre lines based on hardwood



Executives at Tamil Nadu Newsprint and Papers celebrate the ordering of a new pulp line from Valmet

and bagasse respectively to Tamil Nadu's Unit 1 mill at Kagithapuram in the Karur District.

SJ Varadarajan, general project manager at TNPL, commented: "The Unit 2 is a leading manufacturer of pulp and paper board in India. The new pulp mill with Valmet's cooking and fibre line technology will further strengthen

our ambition to maintain the leading position."

SVR Krishnan, executive director for operations at TNPL, added: "The Valmet fibre line brings the latest technology to the TNPL Unit 2 with the thrust on water conservation and environment protection. This fibre line will go a long way in making the operations

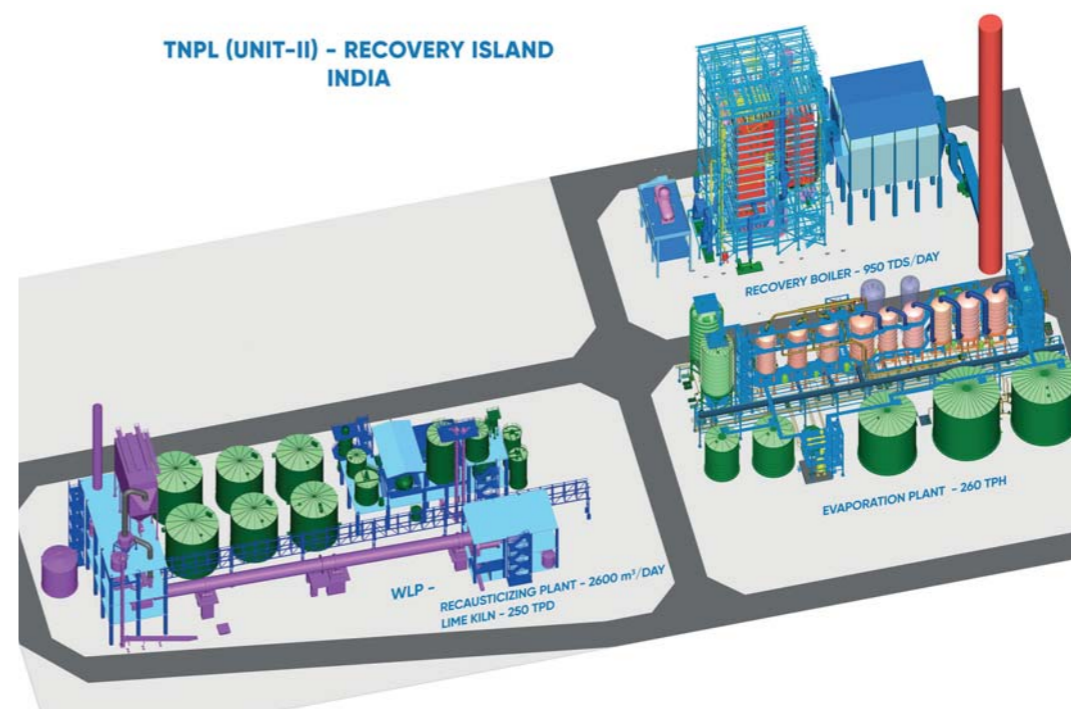
of our Unit 2 profitable."

Eva Engfeldt, senior sales manager at the Fiber Processing Business Unit of Valmet, concluded: "Since the launch of our latest third-generation continuous cooking system in late 2018, we have been well received by the market and this order is yet another acknowledgment of that.

"Furthermore, this will be Valmet's first modern reference in India for a continuous digester system, so we are proud and grateful to be a part of the project together with TNPL."

The scope of the Andritz order includes a Herb recovery boiler with a capacity of 950 tds/d on EPC basis, with a provision for upgrade to 1,100 tds/d in the future; an evaporation plant with a capacity of 260 t/h on EPC basis, which will concentrate black liquor to a final dry solids content of 75 per cent; and a white liquor plant with a recausticiser having capacity for 2,600 cubic metres per day along with a lime kiln with capacity for 250 tonnes per day. The white liquor plant will recycle and reuse the mill's process streams to minimise waste.

### TNPL (UNIT-II) - RECOVERY ISLAND INDIA



The recovery island being supplied by Andritz for the Unit 2 at Tamil Nadu Newsprint and Papers

## New chairman for CEPI industry body

**I**gnazio Capuano is the new chairman of the body that represents the European paper and pulp industry, CEPI.



**New CEPI chairman Ignazio Capuano**

strategic consulting sector with KPMG. Commenting on his election,

Capuano said: "I am proud to take over the presidency of the European paper industry confederation with the recent announcement of the Green New Deal: a great challenge that the paper industry has already welcomed by paving the way for an even more competitive and sustainable production, indicating solutions based on innovation and circularity for a carbon-neutral Europe by 2050."

"As CEPI chairman it will be my job to continue the work already started towards the 2050 climate objectives, starting from the environmental results already obtained by the sector, always paying attention to the

efficient use of our natural capital. The paper industry has a great environmental story to tell as an example of circular economy and commitment to sustainable development for future generations."

Capuano's mandate will last two years until the end of 2021.

Jori Ringman, director general of CEPI, added: "We wish Ignazio Capuano every success for his time as chairman and we look forward to working under his leadership to help the European paper industry continue its growth path while staying sustainable and providing solutions for the climate neutral society of 2050."

## Energy technology director appointed at Toscotec

Stefano Pecchia has been appointed as the new energy technology director at Italian paper equipment manufacturer Toscotec, as its tissue, paper and board business looks ahead to continued growth in 2020.

With more than 20 years of broad experience as a technical manager, Pecchia has worked on the design of energy and drying technologies for global key players, both in tissue, paper and board. He holds a bachelor's degree in nuclear engineering from the University of Pisa and a master's in

paper and board.

With a focus on energy efficiency, Toscotec offers a full range of products and services that deliver high productivity and energy reduction in the drying process. These include its customised TT Hoods that can use steam, natural gas, or other locally-available energy sources. Toscotec's dust and mist removal systems, and heating and ventilation systems complete the portfolio.



**Toscotec's Stefano Pecchia**

## New VP for Materials Handling Engineers Association

The UK-based Materials Handling Engineers Association (MHEA) has appointed a new vice-president, James Bullock, who

will hold the post for the next two years. Bullock, who has been a member of the MHEA's executive

committee for many years, took up the role following the announcement of changes to the secretariat.

He takes over from outgoing vice-president, Linda White, who has held the post since October 2019.



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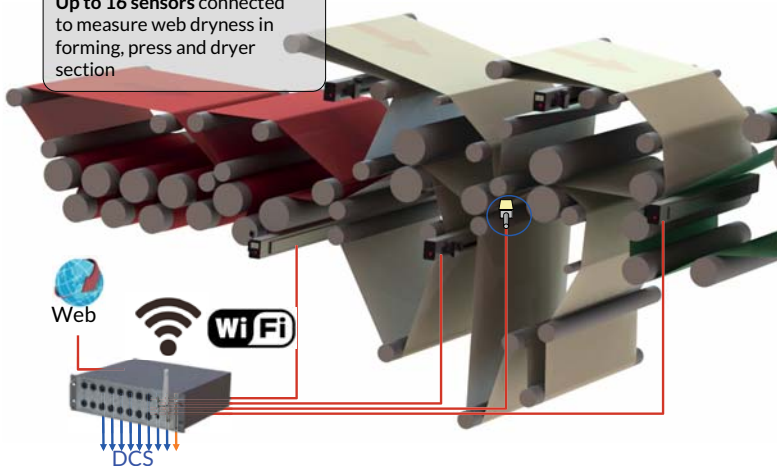


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