PULP DIRECT

The Biofore Company UPM

UPM PULP • CUSTOMER NEWSLETTER

Labels in the spotlight.

2/2018 #pulpdirect

Understanding label papers

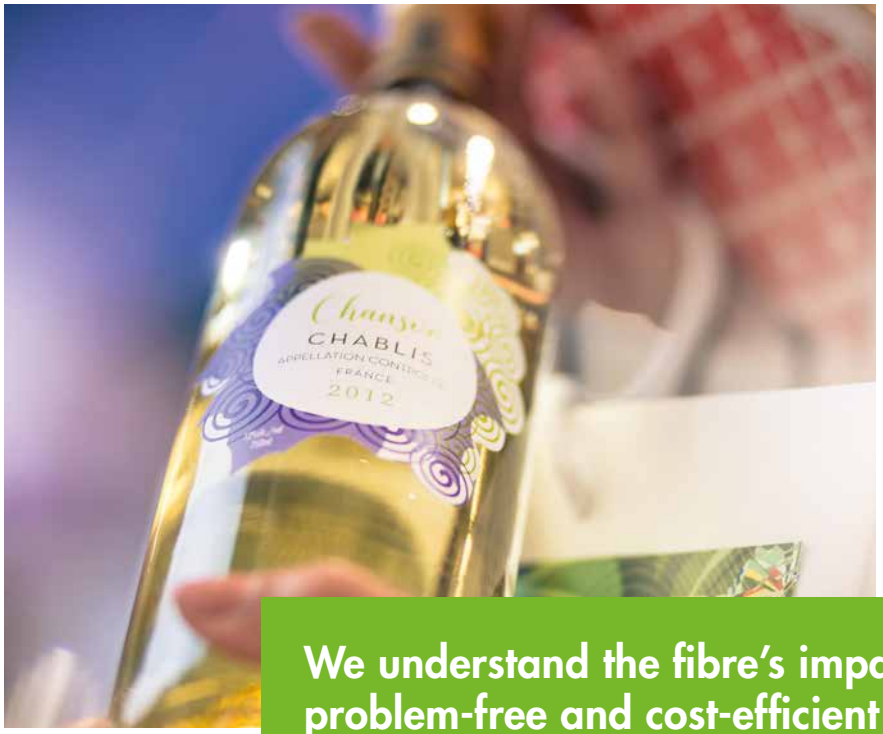
The Rolls-Royce of papers

Lifesaving labels

New life for packaging

UNDERSTANDING **LABEL PAPERS**

What has UPM Pulp to offer release liner and label face paper producers? To find out, we had a Q&A session with **Mats Backman**, their Director of Technical Customer Service (TCS).



We understand the fibre's impact on problem-free and cost-efficient label production.

Mats Backman, Director of Technical Customer Service (TCS), UPM Pulp

WHAT MAKES LABEL PAPER PRODUCERS SPECIAL?

"They are demanding and good customers. Label base and face paper producers must be very customer focused as the value of their products increases step by step. In my opinion our multi-fibre offering suits their needs well. Consistent properties such as cleanliness, pH and predictability of how pulp develops strength and density are of greatest importance to them."

HOW WOULD YOU DESCRIBE THE LABELLING VALUE CHAIN?

"The value chain is long. Most of our label paper customers sell their products to converters for siliconizing, laminating and applying adhesive. Label components are then assembled either before or after printing into a final product. This makes labels a multifunctional combination product with high requirements on raw materials.

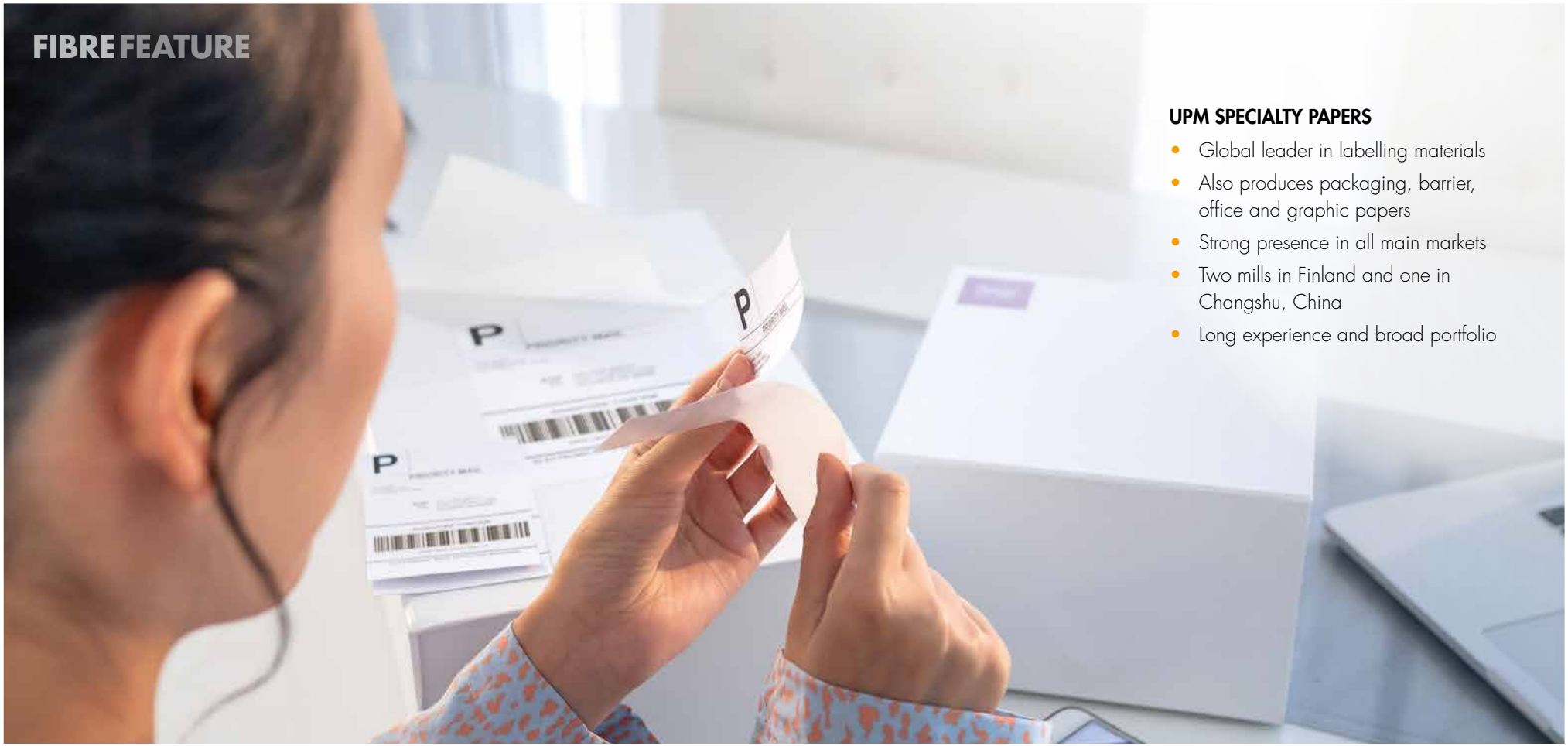
Our pulps have been successfully used in label papers for years. We understand the fibre's impact on problem-free and cost-efficient label production. It's important to choose the right pulp for the right product from the beginning."

WHAT DOES THAT MEAN IN PRACTICE?

"For example, with our UPM Betula birch pulp you will reach high air resistance – a key parameter for label paper as it decreases the consumption of silicon surface coating in converting. The birch pulp has fast tensile strength development. It will consume less energy to refine and can enable extra capacity if refining is a bottleneck. You can also take advantage of the pulp's high strength to decrease softwood content to reduce overall fibre costs."

HOW WILL YOUR CUSTOMERS BENEFIT THE MOST?

"We have a wide product portfolio, including several hardwood and softwood pulps suitable for high quality label papers. Our mills produce continuously even quality – delivery after delivery. Our experienced Technical Customer Service team is always ready to work together with label customers in selecting, qualifying and test running our pulps for the best outcome." ■



UPM SPECIALTY PAPERS

- Global leader in labelling materials
- Also produces packaging, barrier, office and graphic papers
- Strong presence in all main markets
- Two mills in Finland and one in Changshu, China
- Long experience and broad portfolio

THE ROLLS-ROYCE of PAPERS

A highly technical product. Made using advanced methods. Must work flawlessly even in the most demanding applications. And after fulfilling its purpose, discarded without a second thought. That's the life of a release liner base paper.

A label consists of a couple of basic components. Face paper is what you see when a label is attached to something. Printed on one side, adhesive on the other. Before a label is applied it needs a reliable carrier – a paper called a release liner. As the name suggests, release liner is the backing paper where you peel off the self-adhesive label.

Pentti Putkinen, Head of Operations UPM Specialty Papers and General Manager at the Tervasaari mill, describes their release liners and face papers as incredibly technical papers.

"It takes experience and skill to produce paper with predictable properties. People take almost for granted that when you try to detach a self-adhesive label from a backing paper, it comes off problem-free – and only when you want it to come off."

In addition to reliably releasing the label, backing paper must keep its dimensions stable during conversion, storage and application.

"The fact that after application of self-adhesive labels, the release liner is often considered as waste, it's almost ironic that the backing paper may very well be the most advanced part of a label. I often call it jokingly 'the Rolls-Royce of papers'," Putkinen says, smiling. "Fortunately our papers are fully recyclable, biodegradable and made from sustainably sourced raw materials. None of our products contain plastics."

DEMANDING VALUE CHAIN

UPM Specialty Papers has produced labelling materials in Tervasaari and Jämsänkoski in Finland since the beginning of the 1980s. The two mills produce face papers and release base papers as well as barrier and flexible packaging papers.

The labelling materials are always further refined. This makes the value chain exceptionally long and demanding.

"Labelling materials have a wide variety of uses. However, our customers can be divided roughly into two main groups: label stock converters and commercial siliconisers," Pentti Putkinen explains.

Depending on the end use, converters coat the release paper with silicone, laminate the face paper and add adhesive. The labels are printed and shipped to brand owners. Brand owners then apply the labels to their products for consumers to see.

Other end uses for release papers include one- and two-sided sticky tapes, logistics labels, graphic arts and pharmaceutical labels. The papers can even be utilised for transferring coating solutions in the car, aeroplane and wind turbine manufacturing industries.

"The value of a label paper multiplies along the extensive refining chain. This means that if there is a slightest issue with the base or face paper, the problems also multiply. It's a tough business," Putkinen says.

No matter what the end use, the list of qualifications for labelling materials is long.

"Cleanliness, strength, high paper density and consistency are all priorities. Good surface properties and runnability are also often required."

CLOSE TO 100% PULP

According to Pentti Putkinen, unlike many other paper products that typically contain filler substances, the release base papers they produce are almost pure pulp.

"This means – in turn – that the qualities our customers demand from UPM Specialty Papers are directly transferred to our pulp raw material supplier," he says.

Consistent quality and high tensile strength are particularly important traits in high-speed packaging and labelling lines where paper breaks and uneven release properties are not an option. Strong paper similarly keeps its form better in varying conditions.

Purity of pulp is also a more sensitive factor than in many other paper applications.

"Even the smallest impurities may affect our process or our customers' and their customers' processes. We set high standards for cleanliness when it comes to our papers and the pulp we use as raw material," Putkinen emphasises.

The UPM Tervasaari mill uses both Nordic softwood and hardwood pulp to produce their base and face papers. Putkinen says that they often need to refine pulp extensively to reach the desired quality parameters.

"The better the pulp's refinability, the better we can optimise our production and use of energy."

STRONG GROWTH MARKET

Global megatrends steer the demand for labelling materials. A growing middle class, rising income levels and urbanisation all contribute to push increasing consumption of packaged goods. The rise of e-commerce means higher demand for dependable postal and logistics labels.

"People buy things less in bulk. More and more consumers are able to purchase products in smaller batches, which means more packaging and labels," Pentti Putkinen says.

The global annual growth for labelling materials is projected to reach 3–5%. Markets in Asia are growing even faster at a rate of 5–8% and peaking in China with up to 10% increase.

"We have a good reputation and foothold in all of these growth markets," Putkinen says confidently. ■

Lifesaving **LABELS**

What is the simplest way to identify a product? What makes consumer pay EUR 10 for a bottle of wine and EUR 50 for an identical bottle? Packaging – and labels especially – inform us, tell a brand story and differentiate products. But that's only scratching the surface.

Depending on the end use, self-adhesive labels have a huge number of duties they must perform without failure. Labels can even save lives.

The demand and use of labels is increasing globally. **Markku Pietarinen**, Manager, UPM Raflatac Business Segments & Pharma, says that the biggest growth area is currently logistics.

"Food packaging is and always will be the largest segment for self-adhesive labels. However, online shopping and digitalisation have resulted in a steep rise in demand for logistics labels. Numerous labels are needed for shipping and tracking a single product."

Labels can be a part of packaging as well. For example, as a re-sealing mechanism keeping the contents fresh and intact. Adhesive labels can also be considered as currency when used as tax and postal stamps. RFID labels help in identifying and tracking, while reactive labels show if food has gone bad or has not been stored properly.

Pietarinen's area of expertise – pharmaceutical and healthcare labels – is a world of its own.

"First and foremost labels ensure that patients get the right medicines and the right information about safe usage. Consumers must be able to trust the medicines and medical devices they use. Marketing and desirability are often not priorities in pharmaceutical labels."

"Our labels must always perform as intended, keeping the packaging reliably sealed until usage.

Markku Pietarinen, Manager, UPM Raflatac Business Segments & Pharma

A SIGN OF AUTHENTICITY

Numerous global drivers contribute to the fact that more and more people will need medication and have access to healthcare across the world. These drivers include the ageing population in Western countries, a growing middle class and urbanisation in developing countries.

Increased use of medicines and medical equipment has also sparked the need for traceability and verification.

"Labels play a significant role in the fight against falsified medicines preventing their entry into legitimate distribution chains and reaching patients," Markku Pietarinen explains.

The majority of fake medicines are sold online. These medicines are not only ineffective but can also be dangerous. According to the EU all prescription medicine packaging must have an individual tracking code and an anti-tampering mechanism.

Labels are effectively used to identify whether the package has been opened or not. In practise, a label's adhesive tears off the top layer of the carton board packaging leaving obvious signs of opening.

"Our labels must always perform as intended, keeping the packaging reliably sealed until usage. We want to play our part in giving people peace of mind when using medicines," Pietarinen says.

MOST DEMANDING APPLICATIONS

The strict raw material requirements for pharmaceutical and healthcare paper-based labels go all the way back to pulp.

"When it comes to labels the biggest requirements by pharmaceutical companies are technical performance, patient safety, regulatory compliance and change management. UPM Raflatac and all our partners and suppliers must comply with these needs," Markku Pietarinen says.

Development of a new medicine takes years and can cost billions. This is why pharma companies don't like change. They want to ensure the future availability of unvaried materials and adhesive components.

Safety is critical in pharmaceutical labels. All labelling materials are required to be clean.

"Another important factor is migration safety. Labels should not contain any chemicals or foreign materials that could transfer into the product itself contaminating it. Squeezable eye-drop containers and blood bags are good examples where migration safety is essential."

Pharmaceutical packaging and containers are often curved and very small in diameter. Labels are applied directly onto medical equipment, devices, sterilisation material and protective sterilised surfaces including bottles, vials, tubes, ampoules and syringes.

"Labels must release reliably from the backing paper and be resistant for edge lifting whether they are applied on glass, PVC, EVA, polypropylene or polyethylene surfaces. This sets the bar high especially for small diameter labelling on fast application lines," Pietarinen says.

In some cases, labels must withstand cold and cryogenic storage up to -196°C, harsh sterilisation conditions and other demanding applications in healthcare.

"Self-adhesive labels have become so commonplace that you might sometimes forget the expertise and effort put into making them along the value chain." ■

UPM'S EMAS REPORTING expands to societal impact

The EU Eco-Management and Audit Scheme – EMAS – is a voluntary environmental management system designed for companies to manage and communicate the direct and indirect environmental impacts of their operations, products and services.

"Although UPM has included social responsibility in its EMAS reports since the inception of the scheme over 20 years ago, it was last year when we started systematically rolling out our new EMAS reporting approach. We wanted to broaden the scope and increase transparency of our societal impacts," Vice President, UPM Environment and Responsibility, **Sami Lundgren** says.

We wanted to broaden the scope and increase transparency of our societal impacts.

UPM's goal is to provide a clearer picture of how a pulp or paper mill affects the lives of local people.

"Many of our mills have played an integral role when communities have grown around them. Why shouldn't we tell everyone about these intriguing, third-party verified facts? Some of them quite surprising."

The extended EMAS reporting was improved this year by using a mathematical calculation model developed by the Research Institute of the Finnish Economy. The model was used to estimate indirect jobs and effects on consumption created by the company's production units in Finland.

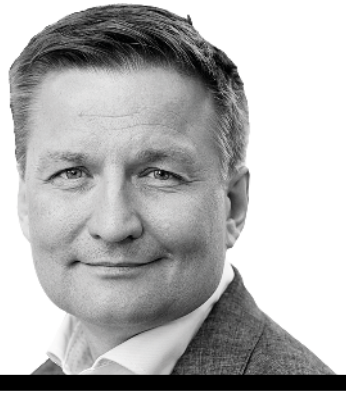
The reports highlight UPM's contribution to employment, tax income and purchasing power, as well as cooperation with local communities. In addition to societal influence, EMAS reports include environmental figures concerning air and water quality, waste, energy and raw materials.

"We incorporate transparently both positive and negative impacts. This way UPM's stakeholders – customers, investors, consumers, local residents and authorities – can make sound decisions," Lundgren underlines. ■

VISITOR ZONE

NEW LIFE FOR PACKAGING

Juha-Heikki Tanskanen, CEO
Finnish Packaging Recycling RINKI Ltd



Today in Finland over 60% of all packaging waste is recycled, with zero organic or biodegradable waste being sent to landfill. In the EU, Finland represents the European average. Every year, 79 kg of recycled packaging waste is generated per inhabitant in Finland, while the average figure for the rest of Europe is 110 kg.

In recent years, previous recycling targets for cardboard, glass and metal have been exceeded in Europe. Recycling objectives for plastic packaging have also been achieved. In line with the new circular economy plan recently adopted by the European Commission, the recycling target for packaging waste will rise to 70% by 2030. Material-specific targets for the same year will vary between 30% and 85%. Many member states of the EU have some catching up to do in order to achieve these new objectives.

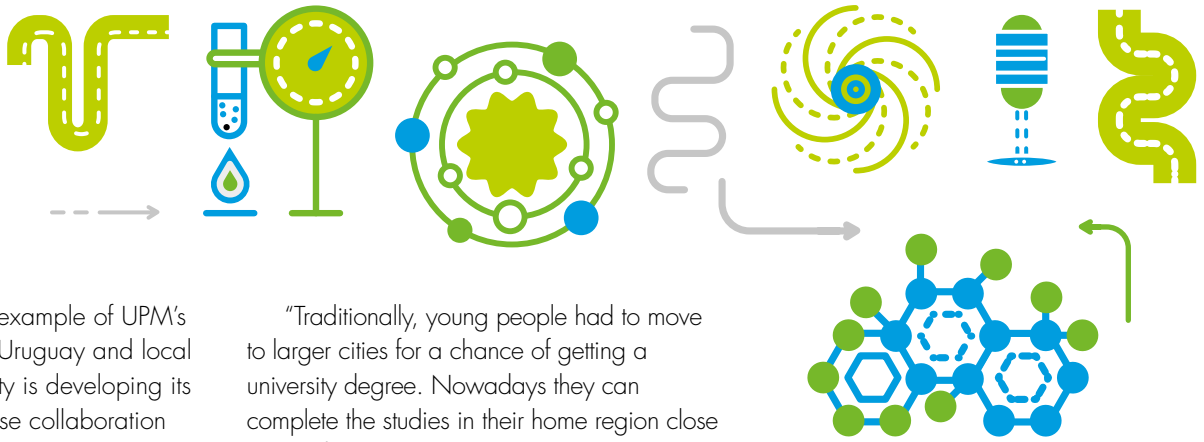
In Finland, packaging is recycled by companies with a turnover of more than EUR 1 million that themselves package products or import packaged products. According to provisions on producer responsibility established by national law, all packaging that ends up in the Finnish market must be collected for recycling, and the waste materials must be reused in the manufacture of new products. This means recycling materials according to the objectives defined in the legislation.

Producer responsibility was extended in Finland at the beginning of 2016 to include organising collection of consumers' packaging. At the same time, RINKI's eco take-back network – organised by producers – began operating. The network includes over 1850 eco take-back points around the country. Consumers can return used cardboard, glass, metal and plastic packaging to these collection points for recycling. The eco points have mainly been established in places where people normally pass by every day, for example near retail stores.

Recycling must be made easy and effortless for consumers. So packaging design plays an important role in achieving recycling targets. If consumers can rely on packaging being recyclable, they will adopt recycling behaviour as a natural part of their daily lives, returning the majority of these materials for reuse. The best result for the environment will be achieved when all parties take care of their responsibilities, from consumers to industries, worldwide. ■

WHAT'S UP?

Local learning IN UTEC



In just a couple of years the Technical University of Uruguay (UTEC) in Fray Bentos has established its position as a top school in advanced technologies such as mechatronics, renewable energies, IT and biomedicine. UTEC attracts students from all over Uruguay, including the capital Montevideo. Now the most modern technical campus in the country hosts over 1,000 students.

UTEC is also a great example of UPM's long term commitment to Uruguay and local communities. The university is developing its academic activities in close collaboration with the UPM Fray Bentos pulp mill. Engineers from UPM and partner companies are even teaching at UTEC, giving students a comprehensive view of highly developed industrial processes and technologies.

"Traditionally, young people had to move to larger cities for a chance of getting a university degree. Nowadays they can complete the studies in their home region close to their families," UPM's Communications Manager in Uruguay **Matias Martinez** says.

The increasing number of students also has a positive impact on city life, and the service sector is developing rapidly.

The first generation of UTEC students will complete their degree this year. ■

NICE TO MEET YOU

NEW FACES in UPM Pulp sales

Juan Pablo Quiroz has started as Marketing Manager, Europe and New Markets, UPM Pulp.

Lois Liu has started as Sales Support Manager, Apac, UPM Pulp.

BREAKING RECORDS in pulp making

In the past four years the UPM Kymi pulp mill has gone through two major expansion investments which have resulted in a capacity increase from 530,000 tonnes to 870,000 tonnes of birch and softwood pulp annually.

530,000 t/a
> 870,000 t/a

Quality UP
Efficiency UP

Zero LTA
in 5 years

At the same time Kymi's pulp and bale quality have improved.

The mill has also broken various records in different parts of the production process. In May 2018 the new pulp drying machine that started operations at the end of 2015 set a new world record in running speed per meter of swing machines during a 48-hour guarantee run - a speed of 389.2 t/d/m (width 6.3 metres).

TOP PERFORMANCE IN SAFETY

The Fray Bentos and Kymi pulp mills both reached a five-year LTA-free (lost-time accidents) period this spring. Joint commitment to safety practices and targets, clear rules, consistent leadership, training and dialogue are key for top performance in safety. ■

P.S.

Dear Reader,

As pulp and paper producers we should finally - and boldly - state that we are working with a great invention. Ever since paper was invented, paper-based applications have spread to a myriad of end-use areas. At the same time as traditional end-uses are shrinking, more advanced uses are created. Paper products are an essential part of our daily lives even if you wouldn't read a single newspaper, magazine or book in printed form any more.

As Markku Pietarinen, talking about labels, says, paper-based applications have become so commonplace that we tend to forget them. Yet these applications have multiple functions reaching from the convenience of daily life to better hygiene, health and food safety to a lifesaving guarantee of authenticity in the case of pharmaceuticals and medical equipment.

For all these years the good foundations of wood pulp have remained the same: it's made from a natural and renewable raw material, making it biodegradable and a versatile raw material for recyclable products. If not recyclable, many pulp-based products can be incinerated safely to produce energy. The higher the recycling rate of the end products, the better we fit into the circular bioeconomy that consistently needs fresh fibres to keep circulating.

Best regards,
Lajos

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UPM PULP
CUSTOMER NEWSLETTER

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