



SUMMER

2022

Board

METSÄ BOARD PROFESSIONAL MAGAZINE

Barrier development
remodels food packaging

Sustainable
forest management

Technical Services
– 8 cases of excellence

**CREATING TOGETHER
A BETTER EVERYDAY**



Packaging solutions

“One can expect that future packaging could contain QR codes with sustainability information such as the origin of the raw materials, the working conditions of the people in charge of the production, and recycling options.”

Maija Pohjakallio, VP, Climate and Circular Economy, Metsä Group



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Innovative reuse of packaging as an insect hotel. Safeguarding biodiversity. Sustainability Unfolded. Zero-waste challenge. Triple CDP “A” score for Metsä Board. Significant investments in Kemi mill site. **page 4**

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Packaging industry benefits from the power of networks. **page 29**

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Pastry box's new design boosts sustainability. **page 32**



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Theme:

CO-CREATION

Everyday choices are challenged by sustainability. Together, we can find the answers. **page 10**

Shaping a better future

The world has changed in many ways, and coping with the constantly evolving business environment requires new ways of working. Success requires innovative thinking, and innovation can be accelerated by collaboration in partner networks and joint research projects.

To reflect the ever-changing environment in which we work, Metsä Board's cooperation with different networks is broad, diverse and future-oriented. This issue explores our cooperation, including the three exciting subprojects in the ExpandFibre programme.

We share the same sustainability ambitions as our customers to all play our part in mitigating climate change and advancing the circular economy. To reach our targets, each part of the value chain matters, and concrete actions are required. As a paperboard supplier, we have an important role in our customers' value chain, and by working together, we can support each other's sustainability goals. This is why we are happy to share examples of sus-

tainability ambitions from our customers to inspire others and to demonstrate how we can contribute to common targets.

Our customers and consumers must be able to trust that the entire value chain operates responsibly, from the very start, which, in our case, is from the forest. You can read in this issue how sustainable forest management is about collaboration, and how our goals are set several years or even decades into the future.

Sustainability is about leaving the world to future generations in as good or even better shape than it is today. Together, we can make a difference. We have therefore dedicated this issue to co-creation.

At Metsä Board, we remain committed to being your partner and value your feedback and ideas. We appreciate that by working together, we can share and achieve our shared aspirations. Thank you for your collaboration also in these exceptional times.

Mika Joukio



SHORTS

The second life of a golf ball package

As housing, commercial real estate and road infrastructure take up more and more space, flora and fauna sometimes struggle to find the right habitat. The concern is global, and every solution that fights it is very welcome.

Finnish Golf Coat Oy found a way to reuse its packaging as an insect hotel in a co-creation workshop organised by Metsä Board's Excellence Centre. When empty, the golf ball package can be turned into an insect hotel that provides shelter for bugs and larvae thanks to separate parts made of paperboard included in the cover. The design was a collaboration between Metsä Board, a design agency and a packaging manufacturer.

"This packaging is an excellent example of how teamwork can create something totally new," says **Gunilla Nykopp**, Metsä Board's Customer Experience Manager.

The packaging was manufactured by PackageMedia Oy, part of Pyroll Packaging, using MetsäBoard Pro FBB Bright folding boxboard.

In addition to the bug-friendly construction, an insect hotel should be located next to native flower species that produce nectar and pollen for the hungry bugs.



This innovative reuse of packaging provides a new home for free-roaming critters, who sometimes need a human helping hand.

SUSTAINABILITY UNFOLDED: A LOOK AT RECYCLING AND E-COMMERCE

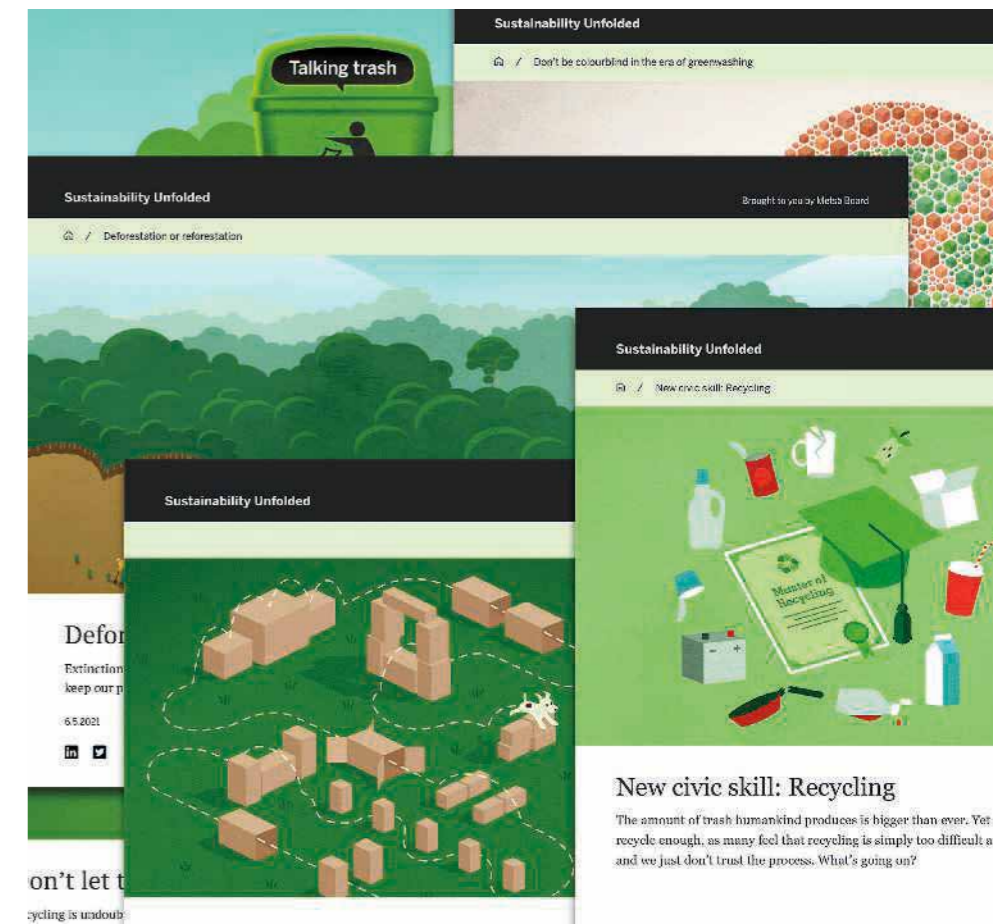
As consumers, we know it is important to recycle packaging. Yet sometimes recycling may feel too inconvenient, and sometimes people even doubt the reliability of the entire process. That is why information is needed!

Metsä Board's new article on the "Sustainability Unfolded" platform focuses on consumer views and facts about packaging recycling, and offers inspiring examples of ways brands and consumers can make a difference.

Another new article on the site focuses on e-commerce, which exploded in popularity with COVID-19. The growth continues. What are the environmental impacts of e-commerce? What can companies and consumers do to support the circular economy?

Metsä Board's "Sustainability Unfolded" platform aims to provide a consumer-oriented and fresh way to open up and address sustainability topics.

Check out sustainabilityunfolded.com and share what you find on your social media channels!



DESIGNER, GET INSPIRED BY THE ZERO-WASTE CHALLENGE!

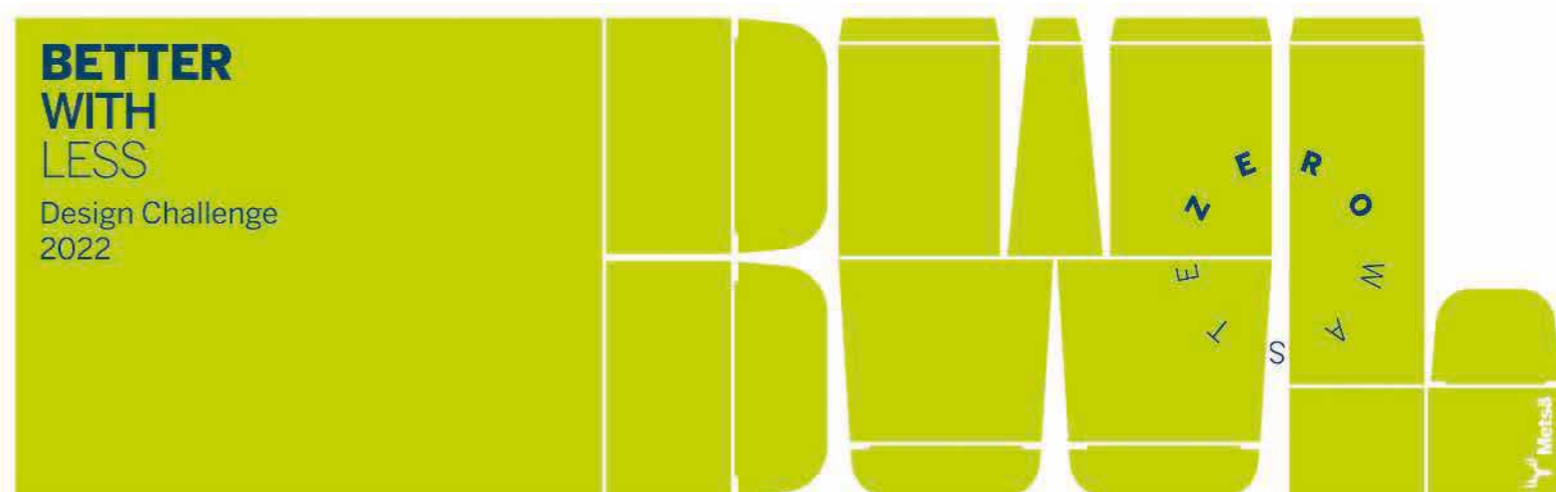
Can you make a difference – can you create better with less?

Designers and students now have the opportunity to show their talent in Metsä Board's Better with Less – Design Challenge 2022, which begins in early June and continues until 1st of December.

In this competition, Metsä Board challenges designers to redesign lighter and smarter zero-waste consumer packaging in line with the

principles of the circular economy. The key is the use of recyclable and renewable raw materials so that the consumer experience is improved, while fewer resources are needed, and less waste is generated.

Read more online and start the creative process: <https://www.betterwithless.org/>



SHORTS

Systematic work and financial contributions for forests and nature

One of Metsä Group's strategic sustainability targets is to safeguard biodiversity. As part of this, Metsä Group is doing significant work to boost the well-being of nature in both its own wood supply areas and in natural areas outside commercial forests.

Metsä Group's Ecological sustainability programme is all about advancing sustainable forestry and forest certification in Metsä's own operations. The most important goals are the strengthening of forest growth and carbon storage, the protection of biodiversity in forest nature, and the improvement of water protection in forest work. For instance, in March 2022, Metsä Group announced that it would now leave large aspen and other scarce deciduous trees in the forests to protect biodiversity.

In the autumn of 2021, Metsä Group launched a ten-year nature management programme to finance development projects that are carried out outside commercial Finnish forests and support biodiversity and the state of waters. New projects are selected every six months. In the first round, six projects were selected, with the total financial investment by Metsä Group approximately EUR 350,000.

AT THE HEART OF THE BIOECONOMY: THE KEMI INTEGRATED MILL SITE

Metsä Group's Kemi integrated mill site will be even stronger with the significant ongoing investments.

The Kemi bioproduct mill project, the investment value of which is EUR 1.85 billion, is in the construction phase and increasingly proceeding to the installations.

The bioproduct mill will be a world-class forerunner in environmental, energy and material efficiency. The mill will not use any fossil fuels at all. It will produce 1.5 million tonnes of softwood and hardwood pulp per year, as well as many other bioproducts.

Metsä Fibre's new bioproduct mill with Metsä Board's white kraftliner mill will create a world-class integrated mill site in Kemi.



SWEET PACKAGING FOR A SWEET DRINK NOVELTY

Summer is a time for toasting. How about a non-alcoholic alternative flavoured with rose petals?

Metsä Board's Packaging Design team and Excellence Centre created an attractive gift box for the non-alcoholic Ruusunen sparkling drink produced by Lasso Drinks.

The brand image of Ruusunen is based on the art of Finnish **Eva Wahlström**, who is perhaps best known for her world-class boxing career.

"The packaging was designed so that the bottle itself is as visible as possible from both sides. The shape of the packaging creates a beautiful frame for the product. The packaging was also made informative by printing the product story on the sides," says **Ilkka Harju**, Metsä Board's Packaging Services Director at EMEA and APAC.

For every bottle of Ruusunen sold in 2022, 50 cents is donated to the Cancer Society of Finland's Pink Ribbon fundraiser.



MetsäBoard Pro FBB Bright is used on the surface of the packaging. MetsäBoard Natural WKL Bright is used in the other layers. The packaging is manufactured by Orapac.

TRIPLE A RECOGNITION FOR WORLD-LEADING ENVIRONMENTAL PERFORMANCE

External third-party assessments and ratings are important tools for companies to continuously improve their performance and demonstrate their commitment to sustainability. Third-party assessments are beneficial not only for the company itself, but also for its customers.

Metsä Board provides transparent external reporting on its sustainability performance and delivers data to external assessment partners like the CDP.

In December 2021, Metsä Board received an outstanding triple CDP "A" score for its environmental leadership in climate change, water security and forests. Metsä Board was one of only 14 companies that achieved a triple "A" out of nearly 12,000 companies that were scored based on data submitted through CDP's questionnaires in 2021.

In February 2022, Metsä Board achieved a place on the CDP Supplier Engagement Leaderboard for its work in engaging with suppliers to jointly tackle climate change.

The CDP's annual environmental disclosure and scoring process is widely known and respected.



CLIMATE FORESTS WATER

More lightweight folding boxboard

Metsä Board is investing in its Husum mill in Sweden. Thanks to the ongoing capacity expansion of Husum's board machine, it will soon be possible to produce more of the famous folding boxboard that provides customers with clear yield and sustainability benefits.

Johanna Flinkkilä, illustration: Leo Tomaszewski

+ 200,000 tonnes

The investment will extend production capacity, raising it from 400,000 tonnes to 600,000 tonnes.

North America and Europe

The additional capacity will be mainly directed to these markets.

EUR 210 million

The amount Metsä Board is investing in Husum.

Biggest in Europe

This investment strengthens Metsä Board's position as the biggest producer of folding boxboard in Europe.

Why Husum?



"Many aspects make Husum ideal for a capacity increase. It's a very efficient and sustainable integrated production site where we are just approaching the completion of the pulp mill renewal. Husum pulp mill's high technology recovery boiler and turbine will soon be up and running, contributing to our fossil free targets. What's more, direct shipping routes from Husum to the world, for example, to East Coast of North America are already in place," says **Ari Kiviranta**, SVP Technology at Metsä Board.

Utilising simulation



"We've conducted a simulation to make sure that there are no bottlenecks built into the system. The operators will be able to focus on the machine performance and the quality of the board," says Project Director **Håkan Jonsson**.

"We collaborate with leading technology partners to create a unique solution within the confines of the existing mill site."

Ari Kiviranta, SVP Technology, Metsä Board

More efficient, more automatised

The increasing level of automation affects the reel traffic, in particular. Reel transportation from the paperboard machine BM1 to the offline coater and winders will be fully automated. Automation also plays an integral role in the loading process at the warehouse.

2024 - 2025

The additional capacity will enter the market in a couple of years.

Multiple end-use areas

Husum's high-performance lightweight folding boxboard is used, for example, in food, pharmaceutical and cosmetics packaging, as well as in food service packaging.

Join the green journey!

Procter & Gamble and Metsä Board target 2030 as they strive for a world that is more sustainable in every way.

P&G website and press releases, Sami Anteroinen, photos: Jussi Hellsten

Sustainability consists of choices – and everyday moments. Sometimes those choices and moments may surprise us, too. For example: when you're brushing your teeth, are you aware that you are contributing to a long, long "green chain" that's big on sustainability?

Take Oral-B, for instance. The maker of electrical and manual toothbrushes and toothpaste wants to advance healthy oral care habits to transform people's health – while reducing our impact on the planet. The company is driving responsible consumption in various ways: for example, its Klik manual toothbrush reduces plastic waste by 60 per cent, and the company has recently started using recyclable toothpaste tubes.

However, Oral-B is only one of the global brands of Procter & Gamble. P&G serves consumers around the world with one of the strongest portfolios of leading quality brands, including Always®, Ariel®, Crest®, Fairy®, Gillette®, Pampers® and Tide®.

For years now, Procter & Gamble has been striving to make its brands more sustainable. Procter & Gamble's most recent sustainability initiative, Ambition 2030, was created in 2018, as the company again took a hard look at its operations. Refocusing its energy on 2030, P&G listed a new set of sustainable goals.

Ambition 2030 wants to inspire

One key goal is that by 2030, 100 per cent of the company's brands will "inspire responsible consumption". For example, serving as many as five billion people gives the P&G brands the unique opportunity to influence attitudes and impact behaviour, driving a positive impact on society and the environment.

P&G also wants to make 100 per cent of its packaging recyclable or reusable by 2030 and to reduce virgin petroleum plas-

tic in packaging by 50 per cent by 2030. The idea is to "unleash the circular economy" across its brand portfolio.

Focus on paper packaging

An important aim for P&G is that 100 per cent of its paper packaging will contain either recycled or third-party-certified virgin content. Over the last several years, the company has expanded its efforts to collect data from an increased number of suppliers to assess progress towards this goal. In 2020, P&G received data from more than 120 suppliers, representing more than 98 per cent of its global paper packaging spend.

In May 2020, Old Spice and Secret were the first major brands to introduce all-paper packaging for selected aluminium-free deodorants in the U.S. Gillette and Venus have also introduced brand-new modern packaging for their refillable razor ranges, making the switch from plastic packaging to fully recyclable cardboard packaging.

Virginie Helias, P&G's Chief Sustainability Officer adds: "We have committed to enable and inspire responsible consumption through innovation on our product and packaging. Our leading oral care brands touch millions of people around the world. For instance our new HDPE toothpaste tubes will contribute to making the toothpaste tubes recyclable at scale in existing recycling streams, hence reducing our footprint and striving for circular solutions. It's no longer about if or what we can do, but how quickly we can do it."

Halve the GHG emissions

How about P&G's global greenhouse gas (GHG) emissions, you may ask? Indeed, one of the goals is to reduce the company's greenhouse gas emissions by 50 per cent across all operations.

WATER EFFICIENCY

P&G sites will deliver a 35 per cent increase in water efficiency and source at least five billion litres of water from circular sources by 2030. The company has already improved water efficiency by 27 per cent and now uses more than 2 billion litres from circular sources.

Metsä Board is aiming for a reduction of at least 30 per cent in water use per product tonne.



“The time for a new kind of thinking and action is now.”

Mika Joukio, CEO, Metsä Board

P&G is also committed to purchasing 100 per cent renewable electricity globally.

And there's more: P&G sites will deliver a 35 per cent increase in water efficiency and source at least five billion litres of water from circular sources by 2030. The company has already improved water efficiency by 27 per cent and now uses more than 2 billion litres from circular sources.

P&G wants to make its entire network more sustainable, too. By 2030, the company will advance at least 10 significant supply chain partnerships to drive circularity in climate, water or waste.

Metsä Board shares similar goals

As one supplier of packaging material, Metsä Board is an important part of P&G's "green network". Metsä Board has its own highly ambitious goals, targeting completely fossil free mills and products by the end of 2030.

The renewal of the Husum pulp mill, planned to be ready for start-up in the first half of 2022, is a significant step towards this goal. The integrated mill's electricity self-sufficiency will increase from about 50 per cent to more than 80 per cent, with its electricity entirely based on renewable biomass.

On top of this major investment, Metsä Board is phasing out the use of peat in its energy generation at the Kyro mill and reducing the use of peat at the Simpele mill. Both mills are located in Finland.

Save water!

In addition to a 10 per cent energy efficiency improvement by the end of 2030 (compared to the 2018

level), Metsä Board is aiming for a reduction of at least 30 per cent in water use per product tonne. For example, an ongoing development programme at Metsä Board's Kemi paperboard mill will reduce the mill's water consumption by about 40 per cent and energy consumption by about 5 per cent per tonne of paperboard produced.

Metsä Board is also helping reduce the amount of plastic waste out there through such products as the company's popular dispersion-coated barrier paperboard. Joint development activities for plastic-reducing and recyclable packaging are carried out in cooperation with customers at Metsä Board's Excellence Centre in Äänekoski.

In 2021, as much as 99 per cent of Metsä Board's raw materials and products' packaging materials per dry tonne were fossil free.

Backed by science, fuelled by ambition

Mika Joukio, CEO of Metsä Board, points out that the company's greenhouse gas emission reduction targets are approved by the Science Based Targets initiative, and they meet the strictest requirements of the Paris Agreement.

“The targets are ambitious. To achieve them, we need to adopt new technologies, expand our research and development work and make investments.”

The largest of the planned investments is the renewal of the Husum pulp mill, which is a major step towards fossil free mills.

“In the best case, companies can combat climate change by becoming active industry forerunners. Leading the way provides a company with time to



Mika Joukio
CEO at Metsä Board



Virginie Helias
Chief Sustainability Officer at P&G

GHG EMISSIONS AND FOSSIL FREE MILLS

P&G aims to reduce the company's greenhouse gas emissions by 50 per cent across all operations. P&G is also committed to purchasing 100 per cent renewable electricity globally.

Metsä Board targets completely fossil free mills and products by the end of 2030. In 2021, as much as 99 per cent of Metsä Board's raw materials and products' packaging materials per dry tonne were fossil free.





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implement long-term plans and investments in a controlled manner," says Joukio. In addition, being a forerunner delivers a clear competitive advantage: for example, improving energy efficiency creates cost savings.

According to Joukio, climate change affects the whole world and is a concern for people everywhere. Companies can see this in customers' changing needs – which often outpace legislation and regulations.

"Because of this, the time for a new kind of thinking and action is now."

Low-carbon innovation needed

Metsä Board is continuing to boost its resource efficiency and processes, while investing in new sustainable industrial concepts and technologies in renewable energy. For example, this means the company is actively involved in research, development and innovation networks. An example of such co-creation is ExpandFibre, a completely new breed of collaborative R&D programme and ecosystem (see the story on [page 20](#)).

Yet another crucially important goal involves responsible consumption and production. Metsä Board is committed to the circular economy throughout its value chain. For instance, Metsä Board utilises more than 99 per cent of its production side streams.

Paperboard with a sustainable edge

Metsä Board's paperboard is made from renewable fresh fibre. The wood use has full traceability and comes from sustainably managed forests. The paperboards are light in weight yet strong, and their production consumes fewer raw materials and less energy and water than the production of heavier paperboard grades. The light weight reduces the carbon footprint and is also an advantage in transport.

After use, lightweight paperboards generate less waste than heavier packaging materials. All Metsä Board paperboards are designed to be recyclable or

compostable, providing an alternative to fossil-based packaging materials.

Many of the world's star brands have come to depend on Metsä Board's paperboard expertise – largely due to their sustainability edge.

Go to the source!

A big part of Metsä Board's climate commitment is sourcing wood solely from sustainably managed forests. The company thus ensures that forests grow more trees than are used and function as carbon sinks, too.

The origin of forests is either certified or meets the criteria for controlled origin. Metsä Board's target is to continually increase the share of certified fibre (83 per cent in 2021) in all the wood fibre it uses.

And this is also where our green journey ends, smack in the middle of a Finnish forest. By now, it's pretty clear that sustainability is a team effort – nobody can do it all by themselves. At the same time, everybody can do something. •

*Are those teeth clean yet?
(Don't leave the tap running!)*

WHAT IS PROCTER & GAMBLE?

P&G serves consumers around the world with one of the strongest portfolios of trusted quality leadership brands, including Always®, Ambi Pur®, Ariel®, Bounty®, Charmin®, Crest®, Dawn®, Downy®, Fairy®, Febreze®, Gain®, Gillette®, Head & Shoulders®, Lenor®, Olay®, Oral-B®, Pampers®, Pantene®, SK-II®, Tide®, Vicks®, and Whisper®. The P&G community includes operations in approximately 70 countries worldwide.



At the source of sustainable material

Metsä Group knows the origin of all the wood it uses. Smooth cooperation between forest specialists and forest owners benefits forests' growth and diversity.

Silja Eisto, photo: Vesa Tyni

Mikko Leikola is a Finnish forest owner and one of Metsä Group's nearly 100,000 owner-members. He has been a forest owner for a decade. However, the history of the Leikola family's farm and forest estate in Millola goes back much further.

"I am the fifth generation on my mother's side to be managing this estate. Our family has owned it since the 1890s."

Leikola and his wife **Anu Juurakko** raise suckler cows. Their fields, including leased land, cover nearly one hundred hectares, which are now used to cultivate grassland.

The estate has around 70 hectares of growing forest. Four years ago, Leikola signed a forest management agreement with Metsä Group, and most of the forestry work is now handled under the agreement.

The goal is to preserve the forest for the next generations.

"I hope the forests will continue to be appreciated and managed in the future so that they grow well and retain their diversity."

Forest specialists assist with this.

Support for decisions

According to **Piia Jyväs**, a Forest Specialist at Metsä Group, forest management and felling plans are always based on the forest owner's views and wishes.

An increasing number of forest owners emphasise values related to nature management. Forests also provide opportunities for leisure activities such as hunting and berry picking.

Leikola thinks of his forest as a source of both recreation and income. "For me, good forest management means the forest will continue to grow in the future. I keep that in mind when I decide what measures to take," he says.

In forest management, the goals are set several years or even decades into the future. The forest specialist provides support and information to help the owner make decisions.

"Cooperation is easy when you get to know the client's forests inside and out," says Jyväs.

Good forest management strengthens the carbon sink

The more vital the forest, the better it can withstand extreme weather phenomena. Well-timed forestry measures support robustness.

"When forests are vital, they can resist the damaging consequences of climate change like pest insects and dry spells," says Jyväs.

Growth binds carbon, and this is a focus of attention on the Leikola estate in both the field and the forest. Growth is supported from seedlings onwards.

Young stand management ensures that growth targets the best trees. It also helps the forest develop more quickly into a carbon sink.

Diversity is another important way to reduce risks. That is why the Millola forests are home to both conifer and deciduous trees of different ages.

According to Jyväs, diversity is considered in other ways as well. When drawing up plans for felling, the forest is mapped for the nature sites that must be protected under Finnish law, such as precipices, patches of herb-rich forest, springs and streams.

Forest certification schemes require that waterbodies are lined with buffer zones, and retention trees are used to increase the amount of decaying wood, and thus biodiversity, in the forest.

For example, as part of Metsä Group's Ecological sustainability programme, the forest owners are provided with an opportunity to leave high biodiversity stumps in the forests to increase the amount of decaying wood and leave protective thickets for animals during all forest work.

Mikko Leikola continues to learn more about forestry and biodiversity through both forest ownership and cooperation with his forest specialist. According to Leikola, constructive cooperation is all about working towards the same end.

The common goal is to ensure that the Millola forests remain in place long after we are gone. •



Sustainable forest use – How is it done?

Tomi Salo, SVP, Corporate Affairs of Metsä Group,
answers three questions about forest use and sustainability.

Silja Eisto, photo: Miikka Tikka

Does the use of Metsä Board's paperboard increase the felling of forests of great natural value?

"In Finland, the most valuable forest nature habitats and sites are protected by the Nature Conservation Act and the Forest Act. All the wood raw material we use is traceable and comes from sustainably managed forests, which are either certified (PEFC, FSC®)* or meet the criteria for controlled origin. None of the wood comes from forests of great natural value like forests with large amounts of decaying wood.

We have surveyed and indicated the high conservation value potential of forests in our information systems.

Forestry doesn't cause deforestation in Metsä Group's procurement areas."

What role does good forestry play in mitigating climate change?

"Good forestry helps us secure forest growth and strong carbon sequestration. History has shown that our forest management methods generate growing forest assets and carbon storage.

The most important point is to ensure the vitality and health of trees. We know that climate change causes more forest dam-

age and increases the risk of storm, insect and drought damage. Healthy and thriving trees resist them best.

To mitigate climate change, it is important to secure strong growth across generations of trees.

Good forestry also focuses on the diversity of forest nature and safeguards water bodies."

How is Metsä Group's ownership related to sustainability?

"Metsä Group is owned by nearly 100,000 Finnish forest owners, who also supply most of the wood we use. They own around half of Finland's privately held forest area. We provide these forest owners with forest management services, helping to ensure forests' growth and biodiversity.

We are strongly rooted in Finland through our owners. It is strongly in their interest to take good care of their forests, including forests' biodiversity. They live in the midst of forests and earn part of their livelihood from the sustainable use of forests.

Many of our owners are private people and families. Their ownership often goes back a long way, and they manage their forests across generations of both trees and people." •

* Metsä Board's board and pulp mills have PEFC (02-31-92) and FSC® (COO1580) Chain of Custody certificates.

TOMI SALO'S THREE CHOICES

Ecological wood-based textiles. Tomi Salo hopes that sustainably produced wood-based textiles will become an ecological challenger to oil-based and cotton textiles. Metsä Group's innovation company Metsä Spring is working to scale up their production to an industrial scale.

A wooden home. Tomi Salo lives in Porvoo in a wooden house that he calls his wooden carbon storage. Salo's choice of house is an important reflection of his values: as a construction material, wood stores carbon for several decades or even for more than a century.

A job in the forest industry. Salo is proud to be employed in the forest industry, which makes sustainable use of renewable raw material.

The search for next-generation packaging materials



Katariina Kemppainen
VP, Group R&D
at Metsä Spring

The unique collaborative R&D programme and ecosystem ExpandFibre dives deep into the future uses of pulp fibre. One of its goals is to find renewable new packaging materials.

Markku Rimpiläinen, photos: Seppo Samuli, Metsä Group

Could biobased polymers be transformed into new barriers and coatings for packaging materials? What could be the potential of fibre-based materials in packaging reuse?

These themes are being investigated in the joint ExpandFibre Ecosystem launched by Metsä Group and the Finnish energy group Fortum, which has been granted EUR 20 million in public research funding. The related ecosystem projects are expected to receive an additional EUR 50 million in public research funding.

At Metsä Group, **Katariina Kemppainen**, VP, Group R&D at Metsä Spring, coordinates the ExpandFibre collaboration. She is excited about the views that Expand Fibre has opened up.

“We get a brilliant overview of the possibilities of the wood fibre. In addition, we now have the resources to coordinate large-scale R&D projects, partnerships, and ecosystems, even when they cover more than one business area.”

New perspectives on packaging

Up to now, 15 significant research projects have been launched inside the ExpandFibre Ecosystem. Important themes for Metsä Group are packaging, textile fibres, biocomposites, and other new fibre products.

Metsä Board is strongly involved in the research projects.

“Metsä Board already has a lot of contacts and networks. With



The Kuura textile fibre is produced in Äänekoski, Finland, at Metsä Spring and Itochu's jointly-owned demo plant.

ExpandFibre, we get new perspectives on the packaging,” says Kemppainen.

All research projects involve many knowledgeable partners for whom these themes in particular are essential. Metsä's partners are also involved in the projects.

“New things often require a value chain partnership. We want to work with future-minded customers who prepare for the future and are ready to invest in evolving technologies.”

Three-dimensional structures are coming

It is known that cellulose can be used to make high-quality paperboards and other packaging materials, but could there be new possibilities for fibre?

“We should invest in research projects that take advantage of cellulose's particular chemical and physical characteristics. Cellulose brings lightness and chemical formability to materials. And of course, the renewability and recyclability of pulp are important competitive advantages.”

The current pulp-based materials are mostly planar, such as paperboard or paper. According to Kemppainen, the pulp can be used to make much more – for example, thicker three-dimensional structures or very thin filaments.

“I find myself interested in all three-dimensional applications such as composite structures and various 3D shapes,” says Kemppainen. •

THE THREE ECOSYSTEM PROJECTS METSÄ BOARD IS PARTICIPATING IN

SUSTAINABLE BINDERS

The Sustainable Binders and Coatings (SUSBINCO) project focuses on sustainable bio-based binders and coatings that can be used in versatile applications such as fibre-based solutions. A wide range of experts are looking at what bio-based polymers already exist, and how modifying them could develop new packaging applications.

NEW FOLDING TECHNOLOGY

The FOLD project aims to develop a concept for a novel folding technology based on ideas from origami tessellation. The new folded patterns can be lightweight, highly transformable, flexible, and visually outstanding. The technology brings an advantage both in cost and sustainability over different materials and enables a reduction of synthetic packaging materials.

REUSABLE PACKAGING

The 4everPack project maps out different possibilities to implement reusable packaging in the markets. The core focus is on the reuse of consumer packaging to lower the environmental footprint of the whole packaging value chain. 4everPack is also exploring the role of bio-based fibres in packaging reuse. The project consortia consist of a large group of companies, including retailers.

Technical expertise at your service

As part of 360 Services, Metsä Board's Technical Service provides customers with in-depth top expertise worldwide. Whether the need is to improve efficiency, product quality or sustainability, the technical experts are there for the customer. Our experts share some inspiring cases here.

Metsä Board and Hube Helsinki, photos: Metsä Group

COLLABORATION RESTORES EFFICIENCY



Because of regulations, our customer, a European pharmaceutical company, began to print 2D matrix authenticity code on their healthcare packages. When inkjet printing the code, the company faced a new challenge.

The ink dried slowly, and our customer had to decrease the packaging line speed by 30 per cent. The customer needed help in restoring efficiency.

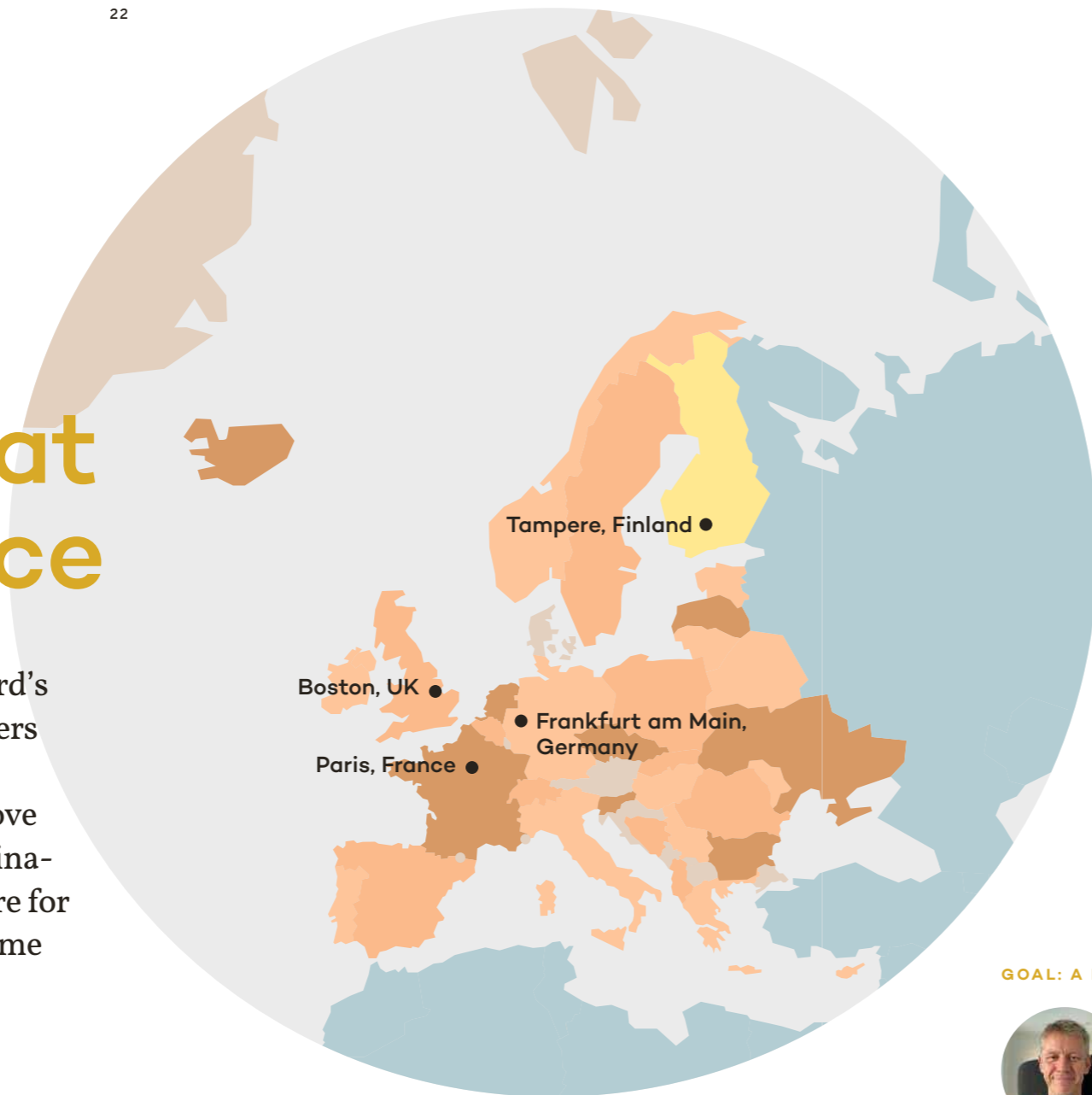
In collaboration with the inkjet coding equipment supplier, we reviewed the inkjet coding parameters and recommended decreasing the 2D matrix authenticity code's print resolution. After thorough testing on the packaging line, the customer accepted our recommendation.

This pioneering case is an excellent example of solving digital printing-related issues in collaboration with the customer, expert network and Metsä Board. With our help, the customer can now run the packaging line at an efficient speed and be confident about ink drying.

Lauri Järvinen, Technical Marketing Manager
Tampere, Finland

“One of the keys to success was the cooperation between a multidisciplinary team within Metsä Board.”

Matthew Terry, Sales Development Director



EUROPE

A PERFECT MATCH: ECO-DESIGN AND METSÄBOARD PRIME FBB EB



Our customer working in the food industry wanted to find more ecological food packaging for fatty and high-moisture content products. The brand owner wanted to favour options that reduced the overall amount of packaging, prioritising paperboard to use renewable resources and facilitate recyclability.

After a clear understanding of the specific needs of the packaging concept, we suggested MetsäBoard Prime FBB EB. Both its barrier and printing properties were outstanding, offering a perfect solution.

MetsäBoard Prime FBB EB gives the brand owner packaging that ticks all the boxes to keep the product safe. MetsäBoard Prime FBB EB is also in line with this customer's eco-design packaging approach.

By collaborating with the brand owner and converter, and providing them with fact-based technical arguments, the customer changed the initial list of the required paperboard properties required to another one. After the changes, our MetsäBoard Prime FBB EB was the perfect match.

Frédéric Renaud, Technical Service Manager
Paris, France

GOAL: A MORE SUSTAINABLE BUSINESS



Our customer working in the food industry wanted to find a more environmentally friendly barrier solution than PE-coated material. The solution needed to be suitable for an extended period of direct contact with chocolate.

Sustainability was the main driver in this case. Moreover, plastics are already costly and becoming more expensive due to additional taxation.

One of the keys to success was the utilisation of and cooperation between a multidisciplinary team within Metsä Board. We organised internal training for the converters in question and explained how the solution would benefit the customer.

We also made direct comparisons of the barrier functionality of our MetsäBoard Prime FBB EB with the incumbent material. We also made some extended shelf-life tests. Our focus was specifically on retaining performance characteristics over several months.

With our help, the customer was able to reduce the plastics used in their product and facilitate its recyclability. We thus helped them towards their own stated environmental goals and created a positive image in the minds of their consumers.

Matthew Terry, Sales Development Director
Boston, UK

ADDING VALUE TO THE CUSTOMER THROUGH ACTIVE COLLABORATION ACROSS THE VALUE CHAIN



Metsä Board is a member of PrintCity, a strategic alliance across the entire printing, packaging and publishing value chain.

PrintCity implements sample projects that enable the realisation of demanding packaging projects at the limits of technical feasibility, and provide a broad knowledge and competence base to the market. For instance, the packaging of the fictitious brand “Better Human” was made by minimising the environmental impact of its production. MetsäBoard Prime FBB Bright 270 g/m² was used in this project.

Sample projects are great examples of what we can achieve if we work together as a supply chain and contribute our expertise. These projects are useful and inspiring to help in the realisation of the potential of paperboard.

PrintCity also organises common conferences and events such as the Packaging Inspiration Forum (PIF). By coming together, multiple companies can already identify and resolve potential challenges in the supply chain during the planning process.

Dennis Grotian, Technical Service Manager
Frankfurt am Main, Germany

NORTH AMERICA

SOLVING A PRODUCT QUALITY ISSUE WITH A 360 SERVICES APPROACH



Our sales team identified an end user whose carton strength seemed to have been compromised because of identifiable carton damage on retail store shelves. These folding cartons made from our competitor's paperboard experienced various compression forces, crushing the carton.

The challenge was to understand if MetsäBoard Pro FBB Bright could withstand these stresses and meet our customer requirements.

We applied a multi-functional 360 Services approach: our Packaging Service team recommended MetsäBoard Pro FBB Bright, based on their analysis of the competitor's paperboard. Internal testing comparing the competitor's paperboard with MetsäBoard Pro FBB Bright was completed. Our R&D team helped simulate the compression forces in the testing equipment to quantify any differences between the two paperboards. The Technical Service team provided tailored training and on-site technical support.

All these services led to a successful adaptation of MetsäBoard Pro FBB Bright. The customer saw a difference on the retail shelf. Additionally, by changing to FBB, the same high performance was maintained at the folding carton converter and filling line.

Chris Rowoth, Technical Services Director
Norwalk, Connecticut, USA

MAKING THE MOST OF OUR WHITE-TOP KRAFTLINERS IN CORRUGATING



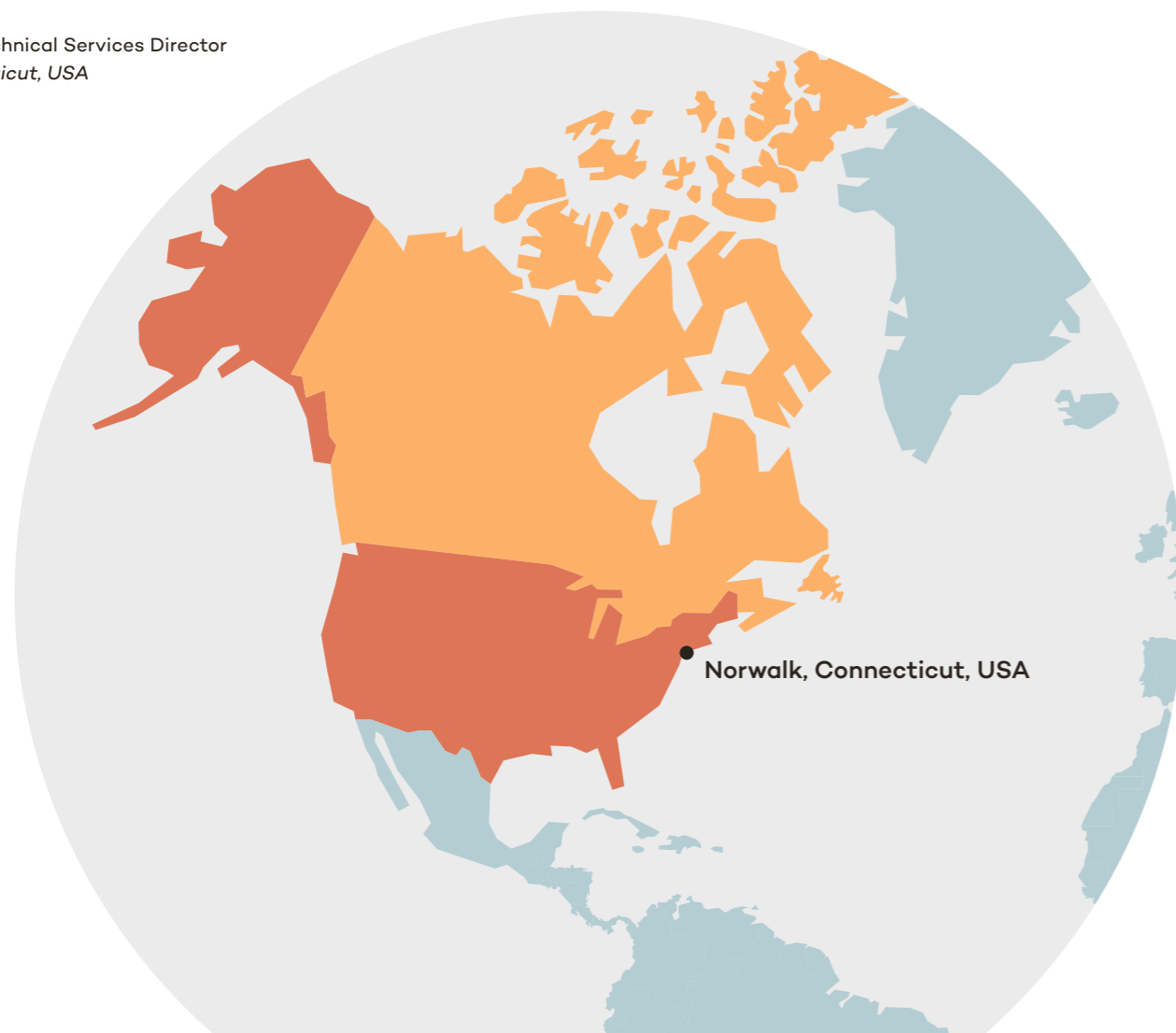
We have done a lot of work to optimise the benefits of white-top kraftliners in corrugating. There are misconceptions about corrugating, and people tend to overthink the process. We help them to simplify and save

costs. Typically, more heat and starch are the problem, not the solution. I usually deliver some key basic rules for optimising the corrugator, in which the first advice is to use less heat.

Offering training to all shifts prior to running our liner on the corrugator helps convince operators to see the benefit of these rules.

The number one benefit of this method is the reduction of waste and customer rejects. Lower energy consumption, lower starch application, a better print surface, better runnability and a more controlled and simplified process are some of the operator benefits.

Steve Rote, Technical Services Director
Norwalk, Connecticut, USA



ASIA

INDUSTRY EDUCATION AND TRAINING LED TO SUCCESS



Digital printing and die-cutting are opening new opportunities for packaging design and functionality. Digital personalisation can make packages experiential. Digital processes are virtually and instantly enabling packages to be produced on-demand and closer to consumers.

With this collaboration, Metsä Board's Technical Service team helped the digital printing and digital die-cutting technology companies to advance their offering.

After fruitful cross-industry training, we moved forward to testing. Within an extensive testing programme, the digitally die-cut cartons were studied at Metsä Board Excellence Centre for crease bend, crease resistance and carton opening force to determine their ability to perform on automated packaging lines.

Metsä Board's Technical team feels advantaged to be part of digital die-cutting technology development with Metsä Board paperboards. We are looking forward to deepening this collaboration with the digital die-cutting technology company.

Brent Singer, Technical Service Manager
Singapore, Singapore

TOWARDS A SMALLER CARBON FOOTPRINT



Our customer wanted to reduce the carbon footprint of the materials they were using. The main challenge was to reduce costs without sacrificing the high-quality requirements of packaging materials for their luxury product packages. Paperboard runs at extremely high speeds on packaging lines and requires super smoothness of the topside surface for transfer metallisation and gravure printing.

With the Sales and our Sustainability Service teams, we offered training and a technical quality comparison to the customer. Especially when the customer decided to change from SBS to our FBB board, there was great need of trialling and sampling. We offered technical expertise to customers' metallisers and printers about using our folding boxboard. We also recommended the most suitable creasing settings for cutting.

With our help, the customer reduced the paperboard basis weight by switching SBS to our folding boxboard. They thus saved costs and could use fewer materials and less transport, reducing CO₂ emissions.

Peter Yip, Technical Services Director
Shanghai, China



COME ON BOARD! BOARDMAKING TRAINING SEMINARS FOR CUSTOMERS

Did you know that Metsä Board offers industry-leading boardmaking training seminars for its customers? The seminars provide participants with more in-depth boardmaking knowledge, from start to finish, and help enhance their processes. Individual training based on customer needs can also be tailored, both in person and virtually.

If you are interested in the seminars, please contact your Metsä Board representative!

Keeping all the good fresh and safe

The paperboard used in food packaging is subject to many stringent requirements, from safety to humidity and grease tolerance – not forgetting the environmental perspective.

Jaana Kalliokoski, photos: Ingimage, Hanna-Kaisa Hämäläinen & Metsä Board

Metsä Board has developed a dispersion barrier coated paperboard that helps reduce plastics in food and takeaway packaging, as well as many other applications. New solutions are being investigated on an ongoing basis. The main driving force is to support the circular economy and mitigate climate change.

Plastic recycling must be improved, but we must also strive to reduce the use of fossil raw materials like plastic.

“No material cycle is infinite, and the manufacture of plastic requires continuously fresh fossil raw material. So it’s important to reduce the use of plastic and replace it with other materials in certain applications,” says Metsä Group’s VP, Climate and Circular Economy, **Maija Pohjakallio**.

The concern about the sufficiency of natural resources and the amount of plastic waste is global.

Whereas EU directives and the European Green Deal guide action in Europe, regulation is less extensive in most US states. Instead, environmental commitments made by individual companies and brands are leading the change. In March 2022, the United Nations’ member states agreed on the adoption of a mandate to develop a legally binding global treaty on plastic pollution.

Right now, studies of microplastics are receiving a lot of attention, provoking global debate and concern.

Solutions inspired by nature

To reduce the amount of plastic, inspiration and models are being sought from nature’s own systems and ecosystems. According to Maija Pohjakallio, we need to understand nature’s own wondrous circular economy model better, as well as nature’s ability to recover and renew itself.

Another major circular economy trend Pohjakallio mentions is circular design. It means that packaging solutions, for example, are designed right from the start, considering their entire life-cycle: sustainable sourcing and resource-efficient use of raw materials, optimised use and usability, and recyclability.

A third major trend is safeguarding material safety, which starts at the molecular level and aims to guarantee that the material is safe for its purpose, and that no harmful substances are released into the natural cycle. Increasingly safe and circular design also includes the addition of data and collection of data from packaging solutions.

“For example, carbon footprint data can already be found in a lot of packaging. One can expect that in the future packaging could contain QR codes leading to sustainability information such as the origin of the raw materials, the working conditions of the people in charge of the production, and recycling options,” Pohjakallio explains.

“And finally, we have to recognise that the environmental impacts of the packaging and the product it contains should be examined together. A good packaging solution reduces product losses like food waste,” Pohjakallio notes.

Dispersion barrier paperboard as a solution

In the autumn of 2019, Metsä Board launched its own solution for achieving its customers’ goals of reducing plastic and making their packaging fully recyclable: a dispersion coated barrier paperboard, which is produced from fresh fibre.

Fresh fibre paperboard is lighter than recycled paperboard, which means lower fuel consumption in transport and less waste. In addition, it is itself a hygienic and pure raw material, unlike

HÉLÈNE LEHTINEN

Hélène has been working for more than 20 years for Metsä Board. She has held various positions within the R&D organisation, as well as in the production unit.

She now works as Metsä Board’s Barrier Development Director at the Excellence Centre in Äänekoski. In this position, she works closely with customers who require their needs to be thoroughly understood in finding solutions for their packaging challenges. Hélène is currently very involved in the development of dispersion barrier boards and their applications.



recycled fibre, which needs to be cleaned before reuse.

The product is especially suitable for packaging material in the food industry. Reducing plastic is a major challenge, because plastic has been a superior material for packaging food so far. The purpose of packaging is to protect the food and prevent it being spoiled and damaged during storage and transport.

MetsäBoard Prime FBB EB can be used in direct contact with food and comes with a dispersion barrier on the paperboard. The barrier keeps the grease and moisture of food inside the package and moisture from being absorbed from outside the package to the product.

A look consistent with the product brand and product information can be printed on the paperboard package’s outer surface. Dispersion barrier paperboard can be recycled through paperboard or paper collection. It can also be composted industrially or at home.

For example, MetsäBoard Prime FBB EB is very suitable for packaging food containing grease. According to Metsä Board’s Barrier Development Director **Hélène Lehtinen**, MetsäBoard Prime FBB EB is used for packaging fresh food like fruit and veg-

etables or pastries, dry foods such as artisan chocolates, frozen products, or takeaway products like doughnuts and hamburgers.

“Paperboard with a dispersion barrier coating can just as easily be used for packaging hard soaps and candles, for example, because they also contain grease,” Lehtinen adds.

Simulation of product and package suitability

When assessing the suitability of a new packaging material, thorough testing is essential to provide proof that it will be safe and perform exactly as designed.

“We work closely with the customer to get to know the product properties, the end-use application, and the conditions that the packaging will face,” Lehtinen says.

To find an optimal packaging solution, the joint effect of the product and paperboard can be simulated in various conditions.

Before the simulation, we need to understand the product’s properties: the conditions in which it is packaged – at room temperature, cold or warm, which can produce condensed water – and how long and where it is stored – in a freezer, a fridge or on a shelf at room temperature.

“All this data enables us to simulate the joint effect of the product and dispersion paperboard in different conditions, as well as to measure the package’s suitability for each product,” Lehtinen explains.

In addition to the package’s barrier properties, i.e. how the film holds grease and moisture in different conditions, the simulation is intended to test the packaging box’s strength. The most suitable paperboard can be selected from the eight different basis weights to fit the requirements set by the product.

“We also examine the interaction of the product and paperboard, including migration – for example, whether odours are transferred from the product to the paperboard or vice versa,” Lehtinen continues.

Lehtinen and her team aim to develop even better properties for the existing barrier paperboard. “For example, the development of a barrier that does not let oxygen through and further improves its waterproof properties would be welcomed by the market. However, this requires further research and development.”

The goal: a fossil free barrier paperboard

In the new biobarrier programme, H el ene Lehtinen and her colleagues are focusing on the development of a completely fossil free barrier paperboard based on renewable materials.

“We are still in the initial phase, and we’re currently evaluating the raw materials that could be used to build barrier properties. Raw materials are limited, which is why we are working with partners. It’s also necessary to ensure that as renewable materials, they don’t compete with food production. On the other hand, it’s important to ensure that the carbon footprint of a renewable raw material isn’t worse than for fossil raw materials. We’re investigating these things and finding a balance for them,” H el ene Lehtinen reveals. •



MAIJA POHJAKALLIO



Maija is Mets  Group’s VP, Climate and Circular Economy. One focus of her work is to participate in working groups and forums related to climate change and the circular economy. Maija is excited about promoting the well-being of people and the planet by combining science and business with sustainable development and the circular economy. She holds a doctoral degree in physical chemistry and electrochemistry.



And the package lives on

Within the EU, the recycling rate for paper and board packaging is 82 per cent. However, cooperation between companies and research institutes is promoting increasingly ambitious goals, not forgetting the reuse of packaging.

Marja Berisa, photos: 4evergreen, VTT and Mets  Group



The power of cross-disciplinary collaboration

4everPack Project Lead **Jussi Lahtinen**, who is also a Senior Scientist at the VTT Technical Research Centre of Finland, believes in the power of cross-disciplinary collaboration. The project consortium encompasses various other packaging materials such as plastic and paperboard and is working to pave the way to increased reuse of packaging before recycling to minimise the environmental footprint.

Materials manufacturers, digital specialists, brand owners and retailers all come together under the same roof with world-class research to look for ways to build closed, environmentally beneficial, efficient and profit-generating systems for the innovative reuse of packaging materials.

“Reuse itself is not a new thing. Most of us can still remember refillable beverage bottles that were largely available to consumers only a decade ago or so. There are many well-established reuse systems in place already, but the majority are in the B2B segment. What we want to do in 4everPack is to extend the reuse to new areas and bring it into the 21st century, challenging assumptions and misconceptions related to reuse.”

Tackling packaging challenges together

4evergreen is working to create various industry guidelines for improving the recyclability of fibre-based packaging.

“For example, the guidelines explain how to recycle various fibre-based materials with the correct mill technology, and how to create packages that are designed for recycling from the start. Moreover, 4evergreen has compiled EU-wide guidance on collection and sorting practices and gathers assets for informing, educating and engaging 4evergreen target audiences,” says Susanne Haase, whose expertise comes from years of collaboration with the European pulp and paper industry.

Both 4evergreen and 4everPack produce unbiased information that in the best scenario could have a global impact on the

As consumption increases globally, so does the need for packaging. The principles of the circular economy must be increasingly applied to the packaging of consumer goods, so that raw materials circulate for longer and waste is minimised. Metsä Board continuously develops its products based on the fibre-based circular economy, but it also operates actively in alliances and networks. Examples of such cooperation include the Pan-European 4evergreen and the Finnish 4everPack.

4evergreen and 4everPack are working on moving the packaging industry towards an increasingly sustainable tomorrow.

Towards ever-better sustainable performance

4evergreen is a cross-industry alliance working on perfecting the circularity of fibre-based packaging to contribute to a climate-neutral and sustainable society. It brings together more than 90 members from across the fibre-based packaging value chain.

“Our ultimate goal is to raise the overall recycling rate of fibre-based packaging to 90 per cent by 2030,” says 4evergreen Programme Director **Susanne Haase**.

“We have more than 130 experts coming together in our four technical workstreams, sharing best practices and building knowledge. 4evergreen is developing a new Recyclability Evaluation Protocol covering all fibre-based packaging types. We have also compiled a new Circularity by Design guideline and are in the process of finalising guidance for improved Collection and Sorting practices.”



Susanne Haase
Programme Director
at 4evergreen



Jussi Lahtinen
Programme Lead
at 4everPack

“Our ultimate goal is to raise the overall recycling rate of fibre-based packaging to 90 per cent by 2030.”

Susanne Haase, 4evergreen Programme Director

developments of the packaging industry. However, there is still a long way to go, says Jussi Lahtinen.

“At the moment, there are no standardised European systems for plastics or fibre reuse. The role of the consumer is also a key driver – how do we motivate them to reuse packages instead of just recycling them, and how do we make reuse so easy that it is widely accepted by consumers?”

Susanne Haase agrees. “We believe greater harmonisation will be the best tool to improve collection and sorting across the European Union. For the sake of consumers and companies, we need clear messages about what is recyclable and what isn’t, and this is what we hope to promote through our guidance.” •

EXAMPLES OF PACKAGING MATERIAL COLLECTION

- Finland, Sweden and Italy have separate collections for fibre-based packaging. Plastic coated board is allowed in this stream.
- In Austria, Germany, France, Belgium, and the Netherlands, standard cartons are collected with paper. Plastic-coated board is collected with plastics and metal.
- In Spain and Portugal, standard cartons are collected with paper into specific “blue bins”, whereas plastic-coated board with plastics and metal go into a “yellow bin”.
- The UK is the only European country with co-mingled collection, meaning that all materials go into one bin for recyclables.
- Recycling practices in the US vary from one state to another, but the recycling figures are increasing. The same applies to various Asian regions.



STARTING POINTS OF NEW PACKAGING DESIGN

Marko Leiviskä works as Graphic Packaging Designer at Metsä Board's Excellence Centre in Äänekoski. He says recyclability and reuse are the starting point of any new design.

“When designing packages, it's crucial to step into the customer's shoes. Each market has different methods for recycling, and the product itself has certain criteria such as its price level, market position and brand values. The point is not just to create a recyclable package, because we have the paperboard to do so – our customers are also interested in how it boosts sales and affects marketing, logistics and branding.”

Corrugated board solutions usually have a high recycling rate because of their design.

“Consumers are pretty happy to recycle them. They are an obvious choice for recycling, since they are usually big, and you do not want huge boxes to take up space.

So a package needs to be designed so that it is usable, light and simple to fold into smaller pieces.”

The key is the consumer.

“If consumers have a positive attitude towards recycling and reuse, the biggest challenge is solved. However, different countries have different ways of recycling, and consumer mindsets also vary from area to area. That's why it is challenging to create recyclable solutions that have global appeal, but we have to at least try. For instance, if packages had a payable deposit that was released at the paperboard recycling point, that'd be an incentive.”

As part of its Sustainability Service, Metsä Board provides its customers with accurate information about the carbon footprint of its paperboard products, based on the CEPI Ten Toes methodology, which breaks down the carbon footprint of a product into ten “toes”. Customers can use this information to calculate the overall emissions of their value chain.



Co-creation at its best. The new packaging is 17 per cent lighter than its predecessor, and cuts the volume of CO₂ emissions by about 34 per cent.

Packed with perfection

Would you like a freshly baked doughnut or a cinnamon bun to go with your afternoon coffee? Of course you would! Take it with you to the office or your home in this stylish, recyclable and sturdy box.

Marja Berisa, photos: Sampo Korhonen

Last year, Viipurilainen Kotileipomo, a Finnish family-owned bakery, decided to find a brand-new packaging solution for its baked goods. The bakery, known especially for its delicious bread, does a brisk business in pastries as well. Before the collaboration project with Metsä Board and printing house Paroprint, baked goodies were packed in basic white boxes with a two-piece construction made of PE-coated paperboard.

Excellence Centre as a facilitator

“We are constantly on the lookout for innovations for our recipes, bakery products, ways of working and packaging. Nowadays, in our line of business, environmental issues are crucial, and we monitor our carbon footprint carefully,” says **Teppo Ylä-Hemmilä**, Bread Artist and Head of Innovation at Viipurilainen Kotileipomo.

Metsä Board is a long-time materials provider for the bakery, and packages are provided by the nearby Paroprint, which specialises in board-based foodstuffs packaging. Add to the mix Metsä Board’s Excellence Centre with its cutting-edge R&D and knowledge of board materials, and you have the perfect recipe.

“Our mission is to explore the exciting potential of premium packaging materials based on renewable fresh fibre. To do this in a multidisciplinary way, we organise workshops and development projects with our customers and partners,” says Metsä Board’s Customer Experience Manager **Gunilla Nyköpp**.

For the past two years, COVID-19 has naturally had its impact, but since its launch, the Excellence Centre has organised about 50 online workshops. As the COVID-19 situation is easing, collaborations will increasingly move to a live setting.

“During workshops, we can actually make demos of the package designs, try out how they fold and what they feel like when handled. This beats sending designs over the internet any day of the week. We get direct feed-back and can quickly suggest alterations. The process saves both time and effort.”

Packaging materials under the microscope

When it comes to printability, the converter’s role is crucial. There are various stages such as die-cutting, folding and gluing that limit the selection of the board material in question.

“Food packaging is a highly regulated area. At the same time, packages need to be safe, hygienic, recyclable and cost-effective. Plastics in particular are under the microscope, and the recently issued EU SUP Directive places strict limits on what materials are acceptable in packaging,” says Paroprint’s CEO **Markku Luosto**.



Gunilla Nyköpp
Customer Experience Manager
Metsä Board



Both the package and the cellophane window used are 100 per cent recyclable and easy to compost.



Teppo Ylä-Hemmilä
Bread Artist and Head of Innovation
Viipurilainen Kotileipomo

The package created in the three-way collaboration comes in three sizes and two alternative designs – one option has a small cellophane window, whereas the other is made completely of paperboard. The box is simple to use, consisting of just one foldable sheet of board. The MetsäBoard Prime FBB EB board is thick and resistant to grease, which is key for pastries, which naturally have a high fat content.

Pleasing to the eye

“Our shop has a section for pre-packaged goods, and they are very popular – people are drawn to the stylish packages and can pick up what they want without having to order at the sales counter. In 2021, our shop sold 20,000 ready-made pastry packages, so now that we have an environmentally friendly and recyclable packaging option, our carbon footprint is cut significantly,” says Bread Artist Ylä-Hemmilä.

“Looks do matter,” he goes on to say. “People are visual creatures and enjoy beautifully designed things. If we can create a stylish package that is practical and environmentally sound, why not?”

In Luosto’s view, the future of fibre-based packaging is exciting.

“As printing processes and fibre materials become ever smarter, we could have packages with audio and changing colours, for instance, which would provide information about the product’s freshness or approaching sell-by date. I’d personally like to see a completely fibre-based, hermetically sealable tray that could be used for packing fresh fish and meats,” he says. •



Markku Luosto
CEO
Paroprint

OUT-OF-THE-BOX PACKAGES

The new design of the one-piece box reduces board material use by 25 per cent. The package can be treated in paper or paperboard waste streams.

“Our customers expect recyclable and compostable packaging materials. They also want products that comply with the legislation in each market in question. MetsäBoard Prime FBB EB has all the necessary certifications and is a perfect fit for demanding foodstuffs packaging,” says **Olli Haaranaja**, Sales Director.

MetsäBoard Prime FBB EB is biodegradable and can be composted both industrially and at home. It is manufactured without fluorochemicals and optical brighteners (OBA), which makes it suitable for direct food contact globally.

METSÄ BOARD FACTS AND FIGURES

OUR PRODUCT PORTFOLIO

	NATURAL	CLASSIC	PRO	PRIME
FOLDING BOXBOARDS FBB	MetsäBoard Natural FBB	MetsäBoard Classic FBB	MetsäBoard Pro FBB OBAfree	MetsäBoard Prime FBB Bright
		MetsäBoard Classic FBB CX	MetsäBoard Pro FBB Bright	MetsäBoard Prime FBB EB
			MetsäBoard Pro FBB CX	MetsäBoard Prime FBB CX MetsäBoard Prime FBB CXB
FOOD SERVICE BOARDS FSB	MetsäBoard Natural FSB Cup		MetsäBoard Pro FSB Cup	
WHITE KRAFTLINERS WKL	MetsäBoard Natural WKL	MetsäBoard Classic WKL	MetsäBoard Pro WKL	MetsäBoard Prime WKL
	MetsäBoard Natural WKL Bright			

METSÄ BOARD IN NUMBERS

NO 1

in folding boxboard and white kraftliners in Europe

in coated white kraftliners globally

Annual paperboard capacity
2 million tonnes



Our customers are brand owners, retailers, converters, corrugated box manufacturers and merchants

2,400

personnel



2.1

billion EUR sales

100

We deliver to 100 countries



In Finland, an average of four new seedlings are planted after regeneration felling.

OUR VALUE CHAIN IS SPECIAL



High access to Nordic fibre

Nearly

100,000

Finnish forest owners are our owner base. The wood we use has full traceability.



Our target is

100%

fossil free energy by the end of 2030. In 2021, the share of fossil free energy in our production was 85%.



Ambitious climate targets

The Science Based Targets initiative has approved our emission reduction targets as consistent with actions required to meet the Paris Agreement goal to limit global warming to

1.5 °C



Metsä Board
professional
magazine

—
metsaboard.com

BETTER TOGETHER

When innovative partners gather, the table is set with plenty of opportunities to find solutions for even the most difficult challenges.

For example, in the spirit of co-creation, Metsä Board participates in many different R&D projects. Through these valuable networks, all the participants can learn from each other and create ways of inspiring people to make more informed decisions in their everyday life.

By focusing on both – the details and the big picture – we can make a better future. Together.



The cover of this magazine is made with
MetsäBoard Prime F88 Bright 210 g/m² (32.0 pt).
It is printed with five colours (CMYK + PMS 803 C) and coated with gloss & drip off varnish.