THE RECIPE FOR GREAT INNOVATIONS
Metsä Board’s ingredients for innovation

◊ Fresh fibre expertise built upon 150 years of paperboard history
◊ Pioneering innovations based on anticipating market trends and understanding customer needs
◊ Strong boardmaking know-how and openness to partnerships
◊ Co-operation with brand owners and converters globally
◊ Pure, consistently high-quality Nordic fibre raw material, tailored to fit-for-purpose pulps
◊ Relentless drive for innovative solutions that are not only better for consumers but better for the world
◊ Smart processes and ways of working
◊ The skilled Metsä team with an innovation mindset

HOW DO YOU CREATE NEW INNOVATIONS? Before you start cooking, make sure you have the most sustainable ingredients and processes at hand, and the best people on your team.

The basis of any innovation is a deep knowledge of your field and an understanding of your customers’ needs and where the future is headed. Mix it with experience, a spoonful of imagination, a dash of open mind and a little bit of courage. Stir properly with the skilled persons and see what you got. If it did not turn out well at first try, try again, by tweaking the ratio of the ingredients until you get it right.

One version of a cutting-edge innovation can be seen on our cover. A functional, yet simply ingenious packaging solution, that won the Better with Less – Design Challenge in 2018. Its creator Iiro Numminen left out the plastic bubble wrap from the recipe – a solution that is both innovative and sustainable. Learn more about his invention on page 24.

The cover of this magazine is made with MetsäBoard Prime FBB Bright–NEW 235 g/m² (14.2 pt). The flagship grade combines superb brightness, whiteness and stiffness. The dashing white look and excellent printability enhance luxurious designs and special features.

MetsäBoard Prime FBB Bright–NEW is a fully coated bleached paperboard with coated back, available in a basis weight range of 170–380 g/m² (8.3–25.6 pt) and suitable for offset, gravure, flexo and digital printing, matt varnishing, hot-foil stamping and embossing.

The cover of this issue has been printed with CMYK and Pantone colours. Printing techniques and effects applied to the cover include spot colour printing, glossy UV spot varnishing, matt and glossy varnishing and embossing.
DEAR READER,

I believe that true innovation in packaging has to have a purpose. It should enable the wise use of resources and offer brand experiences that satisfy consumers on all levels, from packaging appeal and convenience to sustainability. Reducing carbon footprint, advancing a circular economy and finding alternatives to fossil-based materials are key elements when creating sustainable packaging for the future. And we all need to be part of the solution. Throughout this magazine you can see examples of innovative uses of fibre-based materials, ranging from tomato boxes to an alternative to bubble wrap, as well as processes that optimise the packaging design from start to end. All of these innovations strive to create better consumer experiences with less environmental impact.

I am committed to continuing our innovation efforts for sustainability, helping our customers, in turn, to improve their sustainability. Metsä Board is known for its lightweight and strong paperboards that help to make packaging lighter and stronger – providing a concrete way to reduce carbon footprint. This is also a good example of a solution that answers to consumer expectations. Today, I am especially proud of our latest step, the improved folding boxboard product portfolio developed to meet the increasing demands for sustainability and safety in packaging. Read more about our optimised offering on pages 16–17.

Let’s make innovating for a sustainable future our common journey!
Metsa Board created for Kouvolan Lakritsi a unique and surprising package for their world-class liquorice.

Iiro Numminen, winner of the Better with Less – Design Challenge talks about his invention, an ingenious alternative to bubble wrap.

ProntoPack, an integrated cartonboard distributor, offers a new platform for quick deliveries and small batches.

A comparison of the converting processes of MetsäBoard Classic FBB with two recycled paperboards (WLC) highlights the winning qualities of Metsä Board’s products.

CDP recognised Metsä Board for leadership in developing supplier engagement to help combat climate change.

Exceeding the strict requirements for food packaging demonstrates that the safety and purity of materials used is a genuine priority at Metsä Board.

When it comes to cherry tomato packaging, sustainable paperboard may be the packaging material of the future.

Consumer behaviour follows megatrends, such as urbanisation, which is currently driving major changes for the industry.

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Consumer behaviour follows megatrends, such as urbanisation, which is currently driving major changes for the industry.
WHEN CONSIDERING critical success factors for packaging, I believe that, above all, packaging should play a more predominant role in the future. Our community needs to be braver and talk openly about the good that packaging does, instead of being easily attacked for not doing their job properly.

One of the main challenges is the balancing act between marketing and consumer needs and sustainability. The environmental aspect will become even more crucial, and consumers will be increasingly aware of which materials are categorised as non-sustainable. Of critical importance for all Fast-Moving Consumer Goods companies will be to develop communications for both consumers and customers that are easy to understand and clearly convey the message of the overall performance of packaging.

In my view, when talking about the need to innovate and develop new packaging solutions, we should first separate between “real” innovations and renovations, as innovations are relatively rare in the world of packaging. Renovations are applications that offer further positive impacts for consumers or customers, such as easy opening features, improved packaging aesthetics, or better performing shelf display cases.

Typically, we advance these developments together with our key packaging development partners, including universities and research institutes. At Mondelez, depending on the product category (chocolate, biscuits or gum & candy) we do this in our 11 strategic RDQ locations around the world, and implement them in either global, cross-category or local markets. In these locations, we have accumulated a wealth of knowledge on certain key packaging channels, and our projects can last between anything from 1–10 years, depending on the amount of packaging development needed and the maturity level of the technology.

Finally, also as part of these consistent improvement programmes, we need support from our suppliers. It’s not simply a question of cost vs. innovation when considering the role of a supplier. At Mondelez, we believe that a true partnership built on trust allows us to be successful together. When both sides completely understand each other’s needs and can overlay them against the capabilities of the supplier, we are already on the right track.
METSÄ BOARD welcomes guests to “Pro Nemus”, the new exciting Metsä Group visitor centre. Built next to the Äänekoski bioproduct mill’s enormous pulp storage towers, Pro Nemus offers an exciting and innovative forest experience. By combining virtual reality, genuine natural elements and interactive encounters, the centre provides visitors with insights on how Finnish wood is transformed into beautiful as well as functional forest industry products and materials.

The name Pro Nemus is Latin and translates to “for the forest”. The visitor centre also houses an exhibition where you can explore the bioproduct mill ecosystem and take a virtual trip to the Metsä Group’s mills and forest sites.

The centre is a great example of modern wood architecture and it is open to forest owners, customers, students and other stakeholders invited by the company.

METSÄ BOARD’S Packaging Services team is delighted to strengthen its expertise with two new appointments, Marko Leiviskä and Iiro Numminen.

Marko Leiviskä, Metsä Board’s new Graphic Packaging Designer, has a strong global background working for brand owners, converters and board mills. This experience has given him a unique perspective on how packaging can strengthen a brand and this new role will allow him to combine his technical skills into design and brand strategy. Iiro Numminen, Metsä Board’s new Structural Packaging Designer, has worked as a structural designer for almost eight years and has a deep knowledge of production methods related to the conversion of paperboard as well as digital tools. He is constantly looking for innovative ways to use fibre based materials. His latest innovation ‘Stretching Inner Part’ was chosen as the winner of Metsä Board’s Better with Less – Design Challenge in 2018.
The new and ground-breaking eco-barrier paperboard, MetsäBoard Prime FSB EB1 has recently achieved the industrial compostability certification complying with DIN EN 13432 and ASTM D6400 standards. The non-plastic special barrier treatment developed for MetsäBoard Prime FSB EB1 improves the grease resistance of the board and makes it an ecological and efficient packaging material for food, including takeaway and food-on-the-go applications. The product is therefore not only safe for direct food contact but can also be composted and recycled.

Metsä Group Established a new innovation company, Metsä Spring Ltd, in 2018. The company, together with partner companies, will seek to identify and invest in new endeavours to develop new business opportunities in both the sustainable forest-based bioeconomy and circular economy sectors.

In October 2018, Metsä Spring Ltd and the Itochu Corporation from Japan established a joint venture, which is investing approximately EUR 40 million in building and operating a test plant. The aim of the plant is to demonstrate a new technology for converting paper grade pulp into textile fibres. Business Finland, a Finnish governmental funding agency, is participating in the financing of the demo project with an R&D loan.

Construction of the demo plant began in October 2018 in Äänekoski, Finland and the plant is planned to begin operations in late 2019.

The objective of the plant and the related demonstration project is to prove the technical feasibility of the new textile fibre production technology. Based on the results, Metsä Group can evaluate the technical and economic realities of building a larger plant in Finland in the future.

Metsä Board has established an ‘Urbanisation Radar’ to better understand the effects of urbanisation on lifestyles, consumption and packaging, and to contribute to more sustainable solutions. Our ‘Urbanisation Radar’ is an umbrella approach to collect, share, interpret and implement the findings. Stay tuned for details – we look forward to discussing and collaborating on the key themes in Metsä Board’s channels.

The topics are explored in more detail in a series of online articles entitled ‘Urbanisation Radar’. Read the articles at www.metsaboard.com/Trends&Inspiration.

As part of our commitment to develop customer-focused services, Metsä Board has created a new service to improve the availability of our white kraftliners and help our customers in Europe to be more responsive and competitive. The new Common Stock service provides customers with easy access and reliable availability to ready-made standard white kraftliner reels at our warehouse in Lübeck.

This service enables considerably faster delivery times compared to deliveries from mills, and all inventory is owned and planned by Metsä Board. Common Stock includes the most common reel widths.

To get started, contact your Metsä Board sales or customer service team for more information.
METSÄ BOARD ONLINE is a new online service that adds to our existing services by giving customers real-time information about the status of their orders throughout the whole supply chain, all in one place. It’s easy to find relevant information about orders, stock, shipping, deliveries and more. This handy new service was piloted with support from Metsä Board customers during 2018 and the feedback has been positive. Contact your Metsä Board sales or customer service person to learn more.

SUSTAINABLE PACKAGING DESIGN

METSÄ BOARD’S packaging designs incorporate innovative solutions and renewable materials to inspire brand owners and designers to create unique packaging for their products. The global recognition for these designs encourage Metsä Board to continue to create inspirational packaging designs and solutions.

Metsä Board’s revolutionary paperboard cup Lidloc achieved the coveted Red Dot design award for design excellence and creative achievement in October 2018. The design is based upon an extension to a standard cup structure that folds and locks into an integrated lid. The one-piece construction removes the need for a separate plastic lid and helps reduce the carbon footprint of disposable cups.

Metsä Board’s SkinCare 2.0 gift box design won the Shanghai Luxe Pack 2018 Green Award. This award recognises new eco-friendly products which have been designed to demonstrate a specific positive environmental and sustainable impact.

The SkinCare 2.0 gift box uses fibre-based materials to replace plastic. The outer rigid box is made with a new pulp molding process. Each of the three cartons are made of lightweight paperboard and offer a unique opening and reclosing experience combined with high runnability on automated packaging lines.

SkinCare 2.0 also received recognition at the 29th Hong Kong Print Awards where it was named ‘Champion of Packaging Printing, Paper Packaging’ alongside receiving a Merit Award for ‘Best Creative Printing’ and a further Merit Award for ‘Best Crafted Book’. 
Packaging design must communicate the customers’ vision and brand with each step taken along the value chain of the package— from concept to production and on to the consumer. Close co-operation with the brand owner and understanding the whole process is the key to the successful packaging.

According to Ilkka Harju, Packaging Services Director EMEA, Metsä Board, packaging has a pivotal role to play in the consumer’s decision-making process. “It’s one thing to grab the attention of consumers with marketing efforts, but something entirely different to close the sale. This is where the packaging has an important function, inspiring the casual shopper to make the decision to actually purchase a product,” Harju states.

A holistic view to packaging design
The core of the design process lies in understanding the customer’s vision for their product. However, it’s not enough to translate this vision into a visual layout of a package without considering how the vision and the brand are reflected in other phases of the package’s value chain, such as the choice of raw material, converting, logistics, the retail environment and recycling.

Harju likes to think about the whole process when designing a package and views this from a broader perspective, that adds value to the packaging in all phases along its journey.

The partner perspective
The value chain way of working is at its best when the brand owner and other stakeholders such as designers, converters, logistic providers and consumer behaviour researchers work in close co-operation.

Harju argues that collaboration with the brand owner represents an important part of the process: “When working together with brand owners and converters, it is important to have open dialogue and trust. This way we are able to take the brand and brand values into consideration at every step of the way, delivering a truly unique solution for the customer.”

Creating an impact at the beginning of the value chain
The first phase in the value chain is packaging design. “Essentially, the visual design of the package is a physical communication of the product itself. The careful selection of materials, fonts, colours, graphics, shapes, dimensions – these are all opportunities to highlight the essence of the brand,” Harju explains.

Secondly, the choice of paperboard affects the properties of the package, but is also a way to communicate brand values. For example, different raw materials evoke different touch sensations that can be used to convey a message of quality. In addition, the sustainable sourcing of the raw material sends a message that highlights the brand’s sustainable values.

In the converting phase, the packaging achieves its physical form, as the raw material is converted into the design. Different production methods and techniques can be used, for example to bring unique and customised effects, such as textures to the packaging, echoing the brand’s visual concept and making it stand out from competing products. In general, the producibility of the package is important, Harju notes.

Representing the brand
It is also important to consider the co-packers and other suppliers.

*Having experienced suppliers to provide the printed final packaging design
that meets expectations is a vital component in the value chain. Similarly, you need co-packers you can trust to ensure that the final packaging is truly representative of the brand,” Harju says.

When the product has been packed, the packaging must be able to carry the product safely to even the most distant destinations. This, and the optimisation of the load, for example in how the containers can be filled as efficiently as possible, should be taken into account in the design process.

Adding value all the way to the shelves and consumers
The story of the package continues through the brand owners and all the way to retail and consumers. “By using intelligent packaging technologies, such as NFC tagging, brand owners are able to collect data and communicate with consumers in a new way. These technologies allow the package itself to become a branding tool
between the company and consumer. This technology can also allow protection against piracy based on anti-counterfeit solutions,” explains Harju.

The retail environment is a crucial phase in the value chain. The packaging designer and the brand owner need to think of ways to help the product stand out from the crowd. Great taste and the best ingredients mean nothing if your product doesn’t get picked up off the shelf.

Once the packaging lifecycle is approaching its end, there are still factors that need to be considered, and can be conveyed with the packaging design, for example if the package is recyclable or can be used in an alternative way.

“To create a packaging solution that encompasses the brand at every level, we must understand the values that drive our customer’s brand. Working together, we make sure that those values translate into the design process and extend across the entire value chain,” Harju concludes.
Improved portfolio answers to FUTURE PACKAGING NEEDS

Metsä Board’s new and enhanced folding boxboard portfolio saves resources, helps combat climate change and ensures product safety. The future of packaging is about creating better brand experiences with less environmental impact.

TIMO NYKÄNEN  METSÄ BOARD

<table>
<thead>
<tr>
<th>MetsäBoard Natural FBB–NEW</th>
<th>MetsäBoard Classic FBB</th>
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<tbody>
<tr>
<td>Reflects today’s high-end packaging trends:</td>
<td>Superior stiffness and yield</td>
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<tr>
<td>natural look and feel with a sense of authenticity</td>
<td>Consistent quality enables excellent runnability</td>
</tr>
<tr>
<td>A rigid board with an aesthetic appearance</td>
<td>Good sensory and hygienic properties</td>
</tr>
<tr>
<td>OBA-free – approved for direct food contact globally</td>
<td>Approved for direct food contact*</td>
</tr>
<tr>
<td>175–325 g/m² (12.2–24.0 pt)</td>
<td>200–340 g/m² (13.8–25.6 pt)</td>
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CONSUMER CHOICES and demands for brand packaging are increasingly influenced by sustainability and safety issues. Resource efficiency, replacing fossil-based materials with renewables, recycling, reducing CO₂ emissions and concerns regarding the product safety of food packaging are among the main drivers affecting the development of brand packaging.

“As the pioneer and innovation leader in premium lightweight paperboards, we have the ambition to continue developing better and more sustainable solutions. Our excellence in high-quality Nordic fibres, our tailor-made high-yield pulps and expertise in paperboard production enable us to develop solutions to major future challenges,” says Ari Kiviranta, SVP, Development, Metsä Board.

Metsä Board’s improved folding boxboard portfolio responds to future trends even better than before, offering a perfected mix of lighter weight, excellent printability, high product safety and quality consistency.

“Based on careful analysis by our experts, we have crafted the best properties of our market-leading products together in an optimal way. The Metsä Board folding boxboard portfolio now offers even stronger performance in highly demanding end-uses, such as food, beautycare, healthcare, luxury packaging and graphics applications,” Kiviranta says.
Lighter, brighter and more efficient
Besides being better for the environment through lightweighting and raw material efficiency, the improved product range offers customer benefits by boosting brand appeal with its enhanced and balanced visual properties. Also, finding the perfect match for specific customer needs is now easier from a more compact selection of products.

“For example, the new MetsäBoard Prime FBB Bright offers superb brightness and excellent printability for luxury packaging, and enhances the tactile feel with high stiffness. We’ve also introduced an improved OBA-free folding boxboard grade to meet with the food contact material requirements globally. For example, China does not allow the use of optical brighteners in food contact paperboards. In all our products, high bulk and stiffness are in-built properties, enabling the use of lighter weights compared to the traditional grades on the market,” Kiviranta explains.

In addition, the decision to concentrate on selected grades further improves the industry-leading consistency of Metsä Board’s products, which, in turn, increases productivity at the converting stage. And thanks to backup capabilities between Metsä Board mills, the supply reliability is further enhanced.

MetsäBoard Pro
FBB OBAfree–NEW
** OBA-free – naturally high brightness without optical brighteners **
** Approved for direct food contact globally **
** Excellent printability **
** Lightweighting opportunities **
** 195–345 g/m² (12.2–24.0 pt) 

MetsäBoard Pro
FBB Bright–NEW
** A lightweight and stiff multipurpose board **
** The high brightness on top and reverse provides an ideal base for special finishing effects **
** Excellent sensory properties for sensitive premium products **
** Approved for direct food contact* **
** 180–350 g/m² (10.2–24.0 pt) 

MetsäBoard Prime
FBB Bright–NEW
** Our flagship grade combines superb brightness, whiteness and stiffness **
** Dashing white look and excellent printability enhance luxurious designs and special features **
** Bluish white shade **
** Approved for direct food contact* **
** 170–380 g/m² (8.3–25.6 pt) 

*Country specific limitations may apply
Metsä Board’s High Yield Pulp, based on its improved special BCTMP process (bleached chemi-thermomechanical pulp), has taken a leap ahead to meet evolving packaging needs. Exclusively used in Metsä Board’s paperboards, it offers the best value for converters and brand owners with its high quality and reliable consistency. Even better, our High Yield Pulp has set a new milestone in lightweighting of the paperboard, achieving excellent strength and printability with less weight.
SINCE DECADES Metsä Board has focused on what made it famous – producing lightweight, top-quality paperboard with consistency and purity that are deeply rooted in the Nordic forests. The key element is the high-quality fibre and leading expertise in BCTMP production combined with continuous development work.

After extensive research, Metsä Board embarked on a development project to enhance some of the most appreciated characteristics of the High Yield Pulp.

Face behind the development Pirkko Syrjälä, Development Manager, Fibre Development, started with the group in 1991 doing her master’s thesis and has had an integral role in the continuous development of Metsä Group’s BCTMP since the beginning.

“This development project is one of the largest I’ve been involved in. It took about two to three years to run our board mill trials to know we got the recipe right. We’ve always been the leader in lightweighting. But in innovating greater sustainability for the environment today, lightweighting is more important than ever. This is why improving it further is a top priority in our development work,” Pirkko explains. “When buying cereal, you definitely won’t choose the box if it is damaged. The idea of lightweighting is to make sure the box keeps its shape during transportation but uses less fibre, helping to save the environment,” she continues.

Producing High Yield Pulp is resource efficient, as it uses less wood raw material to produce the same amount of board than most pulps. Additionally, less water is needed to produce it.

Improved mid-ply provides more bulk High Yield Pulp is being produced at Metsä Board’s Kaskinen and Joutseno mills in Finland. A new baling line was started up at the end 2018 at the Kaskinen mill to meet with strong demand.

The mill itself also underwent significant development to assure the highest possible production and a more stable and optimised pulping process. Parallel redundant systems were installed so that the process could continue running without disturbances. “Through our improved process, we’re now able to reach our targets in terms of quality and quality consistency,” says Timo Rissanen, Vice President of Metsä Board Kaskinen mill. “The optimised pulp is used as the middle layer of Metsä Board’s paperboard providing the optimal combination of bulk, brightness and strength.”

Winning results Thanks to the High Yield Pulp, our folding boxboards now present an even stronger combination of stiffness and brightness, featuring further lightweighting opportunities.

Metsä Board’s folding boxboard was selected as the best brand at fulfilling converters’ expectations in Opticom’s Brand Equity Tracking Survey 2018. Based on the company’s own yearly customer survey, product quality is the key factor for customers choosing Metsä Board. Naturally, development continues to keep our pole position also in the future.
PACKAGING
SOLUTIONS SUPPORT
THE BRAND’S IMAGE

The packaging services team is a central pillar of innovation at Metsä Board. By leveraging its expertise, there is a lot that brand owners can do.

THE MISSION OF Metsä Board’s packaging services team is to work closely with customers and brands to create lighter, more environmentally-friendly, efficient and innovative fresh fibre paperboard packaging solutions. In order to support our growth in the Americas, the packaging services team has recently expanded with investments in new equipment and personnel at its Norwalk headquarters in Connecticut.

Brand owners benefit from understanding the lifecycle of their packaging, as well as what key functions the package must fulfill during that lifecycle. “I consistently see products that are heavily over-packaged or over-engineered when it doesn’t have to be that way,” says Mark Beamesderfer, Packaging Services Director at Metsä Board. “Championing simplicity, having measurable performance indicators, focusing on connecting with the brand, and creating a convenient, delightful user experience are pillars of excellence in packaging design.”

Thinking outside the box Packaging optimisation is a constantly evolving process of identifying ways to enhance a package. Improving the end user experience can include redesigning opening features that perform well on folding boxboard materials, making a package easier to recycle, designing effective closing mechanisms for multi-use packs, creating new ways to display products in the packaging, or creating package designs that add a level of convenience when using or storing a product.

This could come in many forms, from replacing zipper strips with half-cut mechanisms, to making a removable window that makes it easier to recycle a package properly. Even eliminating unattractive but necessary creases on some materials and replacing them with sharp, properly-scored creases can make a much-needed difference.

Our services include:

+ Lightweighting analysis – we can propose a Metsä Board alternative with a material savings calculation based on the original material’s specifications and measurements.
+ Packaging performance analysis/mock-up – prior to any costly line trials or production runs, we can provide a physical sample of the brand owner’s packaging, made from Metsä Board’s paperboard.
+ Packaging design – provides design solutions including graphical and structural, eco-design and brand development incorporating the latest packaging trends.
CHAMPIONING SIMPLICITY, HAVING MEASURABLE PERFORMANCE INDICATORS, FOCUSING ON CONNECTING WITH THE BRAND AND CREATING A CONVENIENT, DELIGHTFUL USER EXPERIENCE ARE PILLARS OF EXCELLENCE IN PACKAGING DESIGN.
From the SWEETS AISLE to BLACK TIE

Metsä Board and Kouvolan Lakritsi created a unique and surprising package for world-class liquorice, fit for brand-new retail outlets.

TIINA HAIMI  PYRY LEPİSTÖ

The magic behind the leathery look:

- The packaging is made from MetsäBoard Prime FBB 355 g/m² (23.6 pt) folding boxboard.
- Its high surface smoothness is perfect for special lamination techniques and high-quality multilayer embossing.
- The eye-catching package was produced by Cadpack in Finland.
- The packaging can be recycled with paper and board recycling schemes.
IN 2014, when Timo Nisula became the sole owner of Kouvolan Lakritsi, a traditional Finnish liquorice producer, he decided three things: he wanted to centuplicate the company’s brand value, create a design export product, and transform liquorice into gourmet food. To him these things go very much hand in hand, and it all starts with appearances.

“Having a quality product is not enough. The packaging is the first thing people notice, and it sets the expectations for the product inside in consumers’ minds. Therefore, innovative and clever packaging solutions enhance the value and design of any product tremendously,” Nisula explains.

Furthermore, unique and unexpected packaging can open new avenues for the product, enabling it to reach not only new customers, but also surprising new locations.

“The golden leather-like clutch-bag we created together with Metsä Board makes it possible to sell our liquorice for example in clothing and design stores – places we have not been present before – thus reaching a brand-new consumer segment,” Nisula continues.

He says that the process started with his idea of creating a luxurious package, but Nisula also emphasises that proper co-operation brings value to all parties involved.

“Just buying generic boxes from someone to put your own products in is not true co-operation. When you create something unique together, you generate an equation where one plus one equals three, and everyone benefits from it.”

In any collaboration it is crucial to understand the needs and ideas of your partners, but shared values are also extremely important. Sustainability is a cross-cutting value for both Kouvolan Lakritsi and Metsä Board, so the cooperation naturally reflected this. For example, the production of Kouvolan Lakritsi runs entirely on biogas, and to them an important attribute of the golden evening bag was its recyclability.

“By creating an evening bag from paperboard, we have created an ecological and ethical alternative to leather bags, while turning liquorice into a design export product,” Nisula concludes.
Introducing the Better with Less – Design Challenge winner and AN INGENIOUS ALTERNATIVE TO BUBBLE WRAP

Billions of consumer packages are consumed globally every day, and that amount is growing. The Better with Less – Design Challenge motivates packaging designers all over the world to create more environmentally friendly and functional packaging solutions for everyday goods. In this story, we take a closer look at the winner of the 2018 challenge and his inventive alternative to bubble wrap, and four other noteworthy entries.

IN 2018, Metsä Board launched an international packaging design competition, Better With Less – Design Challenge. The competition aims to inspire designers to create more environmentally-friendly and functional packaging solutions for some of the world’s most frequently used and fastest growing types of consumer packages.

From the 302 submissions from 38 countries, Iiro Numminen was selected as the winner for ‘Stretching Inner Part’ – his imaginative alternative to bubble wrap. The competition judges praised Numminen’s entry for being “extremely appealing, versatile, scalable and adaptable for a wide number of uses.”

Having graduated from the Digital Arts Program at Turku Arts Academy, Numminen followed his passion for paperboard and started his career in packaging design. Winning the competition not only gave him and his design great visibility within the industry, but also resulted in him joining Metsä Board as a Structural Packaging Designer.

Numminen’s experience is reflected in his innovative design, cutting incisions onto paperboard in a triangular pattern, and forming inserts that can store and protect items of various shapes and sizes without the use of plastic. “When the product is sitting on the insert, another identical insert is placed onto the product and this creates a sort of a cocoon,” explains Numminen. “The lid of the box holds the two inserts tightly together, so the product can’t move.”

The other standout features of the two-part design are its scalability and its branding potential. “The inner part can effortlessly be scaled for almost any box size and product, so it fits snugly into the box and secures the product,” says Numminen. “In addition to the customisability, the product is presented in a visually appealing way when unboxing and the inner part can be printed on, further highlighting the product or portraying the brand’s image.”

Although he submitted the design under the e-commerce category, Numminen can also see the concept being applied in other areas in the future, from store parcels to electronics.
E-commerce in numbers

E-commerce packaging plays an important role in helping retailers create an impressive unboxing experience at home. Solutions that combine better protection with bespoke brand design are in great demand.

- Retail e-commerce has grown 20% annually over the past 10 years.
- In 2017, global B2C e-commerce turnover was $2.671 billion.
- Only around 10% of retail is online.
- 68% of consumers expect a consistent cross-channel experience.
- 81% of consumers find products in-store before finding the best price online.
“Packing electronics could be one interesting way to use the inner part. Electronics require an anti-static bag so that the fragile parts will not be damaged. The carton inner part can be coated with an anti-static printing. Then plastic bags are not necessarily needed.”

The goal of the Better With Less – Design Challenge is to bring innovative ideas into the world, but it also highlights Metsä Board’s goals more generally. Developing more sustainable packaging is a common pursuit for the packaging industry, material suppliers, converters, brand owners and designers, in which we want to have an active role. The impact on the environment can be reduced, for example, by making packaging lighter, using renewable materials and making recycling easier. With the first instalment having been so successful, the competition will run again in the autumn of 2019. Read more about the competition jury of 2019 and the competition categories at www.betterwithless.org.

**Runners Up**

With such high-quality submissions to the Better with Less – Design Challenge competition, deciding on a single winner was exceptionally difficult. In addition to the winning design, there were several other noteworthy entries – here, we present four of them.

Submitted under the Wild Card category, **Jeroen Caelen’s ‘Plastic Banning Toilet Roll’** is a hexagonal paperboard tube that has a secondary function as a toilet paper roll holder. As well as being fully recyclable and migratable, Caelen’s was the public’s favourite design.

**Abdullah Cam and Dennis Lohmann** submitted his entry ‘The Moisture Face Crème Cosmetic Package’ under the Cosmetics category. It is a reusable one-piece paperboard package that removes the need for plastic or foil coatings by utilising a changeable plastic inner part within a reusable paperboard package.

Also in the Cosmetics category, the submission ‘TWIST’ by **Paweł Krawczugo** is a simple yet extremely versatile packaging design. The packaging was entered under this category as it could be used to store such products as mascaras and eyeliners.

Finally, in the Student category, **Alessandro Grossi’s** entry, titled ‘Playing Nature’, is a snack packaging design that can be transformed into small puppet-like toys for children to play with. For his design, Grossi was awarded an internship with Metsä Board’s packaging services team.

Metsä Board’s international packaging design competition, Better with Less – Design Challenge, will be arranged again in 2019. The aim of the competition is to find new solutions for some of the most frequently used consumer packages, to deliver better experiences with less impact on the environment.

Will you be the one that changes how millions of people consume products every day? Stay tuned for more information and take part in the competition!

www.betterwithless.org
AT THE END OF 2017, ProntoPack began operations – the realisation of a dream of two entrepreneurs, Ernest Ginjaume, CEO of Comart in Spain, and Davide Renzi, CEO of Fratelli Rotta in Italy. Both have been long-term customers of Metsä Board. But more than that brought them together. Ginjaume and Renzi both come from domestic family-owned cartonboard supply companies for the food, pharmaceutical and beautycare industries. And both saw that Europe was quickly evolving toward a single market. The need for faster delivery times and smaller order sizes was growing, due to more frequent promotional campaigns and shorter production runs.

“About a year ago, we started discussing how we could offer better service, quicker deliveries and smaller batches to converters on a European level,” says Davide Renzi. “We met in Barcelona, and ProntoPack was born. It’s the perfect combination of ‘pronto’ for speed and ‘pack’ which is our business. It was the perfect time to do this.”

Speeding up service
ProntoPack is a unique platform that brings a completely new level of service to European converters – a new way to join the board producers with the converters – the missing service link.

Converters can now get just-in-time deliveries averaging about 3 to 5 days, with sheeting to size, and small batches of any quantity. This allows converters to purchase small volumes of premium board, eliminating capital tied up in stock. ProntoPack even helps to optimise stock by keeping it at their premises, if desired. This gives converters the ability to take small-batch or quick-turnaround orders they wouldn’t be able to do earlier.

Partnership to support long-term goals
“We chose Metsä Board as our main paperboard supplier – our partner. Metsä Board is well recognised in the market for its quality, and ProntoPack stands for quality,” Ernest Ginjaume explains. “It was also important for us to find a supplier that supports our long-term vision and really believes in partnership.”

For Metsä Board, it is a valuable partnership too. By working with ProntoPack, the company also will have even better access to local markets.

“Metsä Board is innovative and has a leading position, especially in fresh fibre board grades that are replacing recycled fibre boards due to new regulations for food packaging,” says Ginjaume.

Ambitious growth plans
In November 2018, Ginjaume and Renzi opened a sheeting centre in Germany’s Lübeck harbour, where 3 to 4 ships per week bring Metsä Board’s paperboard for processing. From there, they will continue on rail to converters around Europe. This will save substantial amounts of money tied up in stock and logistics, and speed up delivery. Another centre is planned later in France.

For now, the two ProntoPack founders are busy growing their network throughout Europe with like-minded entrepreneurs who believe just as passionately as they do in providing the best possible service.
Time is valuable in converting and therefore it’s worth paying attention to the runnability of the paperboard. A production scale study compared the converting processes of MetsäBoard Classic FBB, a fresh fibre folding boxboard, and two recycled paperboards (WLC) with matching cross directional thickness and stiffness. The results demonstrate that when it comes to maximising speed and performance, as well as reducing waste and weight, Metsä Board’s fresh fibre folding boxboard comes out on top.

TIINA HAIMI
METSÄ BOARD
METSÄ BOARD’s study comparing converting speeds and processes was conducted in co-operation with one of Metsä Board’s European customers in April 2018. It is extremely important to understand how the choice of material affects each stage of the conversion process, and what would therefore be the most efficient material.

The study comprised of converting 200,000 cartons, and comparing the performance of MetsäBoard Classic FBB, a fresh fibre folding boxboard, and two recycled boards (WLC), in basis weight range 300–320 g/m². In each category the fresh fibre folding boxboard performed better, and resulted in a lighter, more durable product.

At the printing stage MetsäBoard Classic FBB ran 12% faster than either of the two recycled boards. At the die-cutting stage the speed benefit of MetsäBoard Classic FBB 235 g/m² (16.7 pt) was 24% and at gluing 16%. There was also very little waste with MetsäBoard Classic FBB – it produced only half of the converting waste compared to WLC, and its board related downtime was only 25% of that of the recycled boards. On top of the converting stages tests a box compression test was carried out with the same board grades. The cartons made of MetsäBoard Classic FBB achieved a 15% better result than the cartons made of recycled boards.

Also according to the brand owner the cartons made of MetsäBoard Classic FBB showed excellent runnability on a packaging line.

“We are self-sufficient in fibre supply and therefore we can be sure that the quality of our raw material is uniform. This enables a consistent board quality that runs smoothly in carton production. When high productivity and light weight are required, our folding boxboard gives excellent results. For carton manufacturing this means clear savings throughout the whole production process and of course once the consumer has finished with the carton it can be efficiently recycled,” Lauri Järvinen, Technical Marketing Manager, Metsä Board concludes.

METSÄBOARD CLASSIC FBB:
More cartons at same weight

| WLC 320 g/m² | 22 cartons / 1 kg |
| MetsäBoard Classic FBB 235 g/m² (16.7 pt) | 29 cartons / 1 kg |

WHEN HIGH PRODUCTIVITY AND LIGHT WEIGHT ARE REQUIRED, OUR FOLDING BOXBOARD GIVES EXCELLENT RESULTS.
Metsä Board recognised as a WORLD LEADER FOR SUPPLIER ENGAGEMENT ON CLIMATE CHANGE BY CDP

Metsä Board has recently been recognised by CDP for its leadership in developing supplier engagement to tackle climate change and manage carbon emissions.

CDP IS A NON-PROFIT global environmental disclosure platform, driving companies and governments to reduce their greenhouse gas emissions, safeguard water resources and protect forests. In 2018, CDP has awarded Metsä Board a coveted position on its third annual Supplier Engagement Rating leader board, comprising of companies from around the world specifically identified as leaders in managing carbon emissions and addressing climate-related issues across the supply chain.

Over 5,000 companies submitted information to be independently assessed against CDP’s supplier engagement rating methodology. Of the companies that participated in CDP’s supply chain programme during 2018, only 3% were awarded a place on the leader board. Voted number one climate research provider by investors, CDP leverages investor and buyer power to motivate companies to disclose and manage their environmental impacts.

This recognition further builds upon Metsä Board’s recent achievement of being placed on the 2018 CDP A list for both climate change and water security. Metsä Board also scored A- in the CDP’s Forest programme.

ONLY 3% OF THE 5,000 PARTICIPATING COMPANIES WERE AWARDED A PLACE ON THE LEADER BOARD IN 2018.
EXCEEDING SAFETY REQUIREMENTS

As a pure and safe material, fresh fibre paperboard is the best choice for food packaging. Metsä Board has taken the industry lead to ensure that its products meet strict safety standards.

Timo Nykänen Kaisu Jouppi

THERE ARE STRICT requirements for the safety and purity of materials that come into contact with food. The long-lasting work to ensure the safety of Metsä Board’s products was taken to a higher level in autumn 2018 by auditing the Kyro, Äänekoski and Husum mills according to the Food Safety System Certification (FSSC) 22000 standard. The Simpele mill had previously been granted this international certification, which is fully recognised by the Global Food Safety Initiative (GFSI). Also, Metsä Board’s Kemi mill will be audited according to this standard during 2019.

“The requirements for safe food packaging materials will continue to increase. Additionally, consumers worldwide have become more aware of the unwanted chemical load contained, for example, in recycled fibre and its possible effects on health. The demand for paperboard made from fresh fibre is increasing in line with the growing need to ensure safe food contact materials that come from renewable sources and are recyclable,” says Marjatta Punkka, Product Safety Manager at Metsä Board.

The risk-free option

According to Punkka, there is no harmonised EU legislation on food contact materials for paper and board products, and different parts of the world emphasise slightly different aspects of product safety. Metsä Board’s proactive approach to not only meet set requirements, but exceed them, aims to ensure that the company is ahead of the game in guaranteeing safe products to customers globally.

“With regards to the use of recycled fibre in food contact materials, restrictions have been put in place to eliminate risks to consumers because of possible residues of, for example, printing ink, adhesives, lacquers and other chemicals particularly in materials collected from consumers. Recycled fibre may also come from industry sources, where it is generally more homogeneous,” Punkka explains.

She adds that wood fibre cannot be recycled an unlimited number of times, because each time the material is recycled, the fibre is worn down and the quality of the material deteriorates. This means that pure fresh fibre is needed to keep the recycling loop ongoing.

“If fresh fibre is not added to the recycling loop, a fibre shortage would occur in no time at all. Although there are many excellent applications for recycled fibre, when it comes to the safety of food packaging for consumers, the best option is fresh fibre,” Punkka concludes.

The hygiene area at Kyro mill.
BEFORE CONSUMER preferences, the aim of the study was to look at the environmental impact of packaging. Metsä Board carried out the study together with vegetable co-operative Närpes Grönsaker, consumer packaging research company Sense N Insight and Natural Resources Institute Finland (Luke). Metsä Board’s design team came up with a prototype for tomato packaging.

According to Jonas Lundström, Sales and Marketing Director, Närpes Grönsaker, the company already uses paperboard-based packaging for some products – such as Metsä Board’s white-top kraftliner for a larger family-sized container – and is interested in new applications, provided that they meet certain criteria.

“This study showed that consumers preferred the paperboard box as a more sustainable option, but also wished they could see the product better. For us, developing product visibility is currently the focus point with paperboard packaging. Although, at the same time, the printing space provided by the material offers interesting marketing opportunities,” Lundström says.

Based on the findings of the insightful study, the participants were willing to pay around EUR 0.50 more for a paperboard box than a plastic box. Commenting on the results, insightful Virpi Korhonen, Sense N Insight, notes that this would be the case if the new type of packaging is perceived better in every way.

“Consumers are not willing to compromise on the functionality of the packaging for the sake of the environment. In this case, besides being ecological, the participants found the paperboard packaging to be more appealing and distinguishable, and thus increasing the overall value of the product,” Korhonen says.

ALTERNATIVES NEEDED With regards to the research conducted by Luke on the shelf-life and climate effects of tomato packaging materials, the main finding from Metsä Board’s point of view is that cherry tomatoes were preserved at least as well in paperboard cartons as in the plastic packaging and the climate impact of a recycled PET packaging was six times higher than that of a paperboard container on average. “It is important to note, however, that the share of consumer packaging of the total climate impact of cherry tomato production and packing was very low, as the use of energy in greenhouse cultivation causes the largest effect,” says Senior Customer Manager Juha-Matti Katajajuuri from Luke.

Overall, Lundström says that Närpes Grönsaker is continuously looking for solutions that use less plastics and packaging in general. He is fully convinced that there will be interesting fibre-based alternatives developed in the future.

“As a sustainable and recyclable material, paperboard will definitely have a greater role in our field as well. We are, naturally, interested in cooperating with Metsä Board on further product development to find an effective solution for an automated packaging line, combining sustainability with optimal protective and visual properties,” Lundström says.
“This is an ecological choice. It makes me think that it is easily disposable.”
FEMALE, 44

“It’s better because there is not as much plastic garbage.”
FEMALE, 44

“This looks like it is high quality.”
MALE, 46

“The closure mechanism was functional, and I believe it will work for as long as the tomato case is used.”
FEMALE, 47

“The package looks delicious. It reminds me of farm tomatoes.”
FEMALE, 52

“With the carton package, I would have to spend more time looking at the tomatoes, and making sure that they are all fine.”
MALE, 29

“That is a nice-looking package, but I might not pick it, because I don’t see the tomatoes well.”
FEMALE, 29

“The paperboard box is quite cute.”
FEMALE, 47
Metsä Board is constantly monitoring changes in consumer behaviour and analysing trends across the globe when it comes to how products are packaged and purchased. One megatrend, urbanisation, is currently dictating major changes.
WE FOLLOW global megatrends, so that we can be prepared for the future and predict the impact of these trends on our business. We also want to share interesting trends with our customers and other stakeholders to facilitate fruitful discussions,” says Anu Rehtijärvi, Market Intelligence Manager at Metsä Board.

Since she started in a market analyst position in 2001, the emphasis of her work has changed. From preparing market share and sales reports, she now provides market intelligence for a deeper and wider understanding of industry drivers.

Eyes open
"Tracking the business environment is my area of expertise," Rehtijärvi continues. “Besides the obvious, such as our competition and direct customers, I also follow consumer goods and foodservice industries, developments in waste management and regulation, as well as general sentiments regarding consumption, packaging and sustainability, for example. When shopping or travelling, I keep my eyes open to observe the behaviour of consumers.”

In her opinion, the trends themselves do not change that quickly, but rather new terms are coined to describe them.

A trend to drive all
“Still, urbanisation has been identified as the most influential megatrend affecting us and where the world is going,” Rehtijärvi says. “Just 2% of all land area produces 70% of global GDP and 70% of greenhouse gases. That puts a high demand on the infrastructure, from getting the food and other essential goods into cities and stores for consumers, and then handling the resulting waste from consumption.”
Make the most of Metsä