impressive

ISSUE 1/2018

Incineration of paper sludge?

Heimbach Filtration has the know-how!

Changing felts with the shoe press closed

Paper Pete knows how it works!

Primobond.F persuades

Interview with Stora Enso Hylte

Fit for the future

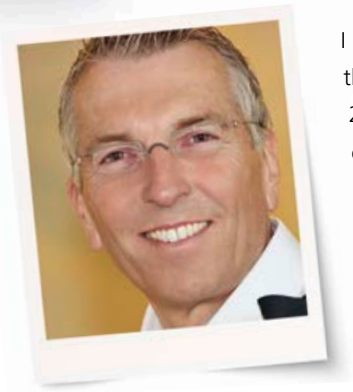
A variety of opportunities for Paper & co.

Seam Felts on the Rise

New technologies for more efficiency

The success of Connect seam felts continues: They score highly in terms of speed, safety at work, and runnability. More and more varieties based on **"New-Tech press felt technology"** are in use. Non-woven or multiaxial designs are well-known examples. But standstill means regression – and since **Heimbach focuses on progress** we are continuously developing new possibilities for even better paper results. Learn more from page 8.

Dear customers,



I hope you started the New Year in good health and that your business has enjoyed a successful start to 2018. In this impressive we would like to take you on a small journey in time – into a **promising future!**

The truth is: the paper industry is experiencing radical change worldwide which concerns you as much as us as your supplier and service partner. **Our industry must meet great challenges on a daily basis when we think, for example,** of the pressures of competition, energy efficiency or environmental sustainability. We must react quickly and flexibly to changing market and customer requirements. Added to this is the growing scarcity of raw materials.

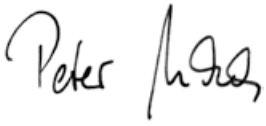
There are, nevertheless, plenty of reasons to look ahead with optimism. Let's remind ourselves for instance of the promising scenarios from the **"FIBRE & PAPER 2030"** study, which was published by the Papiertechnische Stiftung (Foundation for Paper Technology), Munich. The aim of this project was to research new or additional fields of application for paper materials.

In our column "Paper is the Future" we have quite often reported on exciting innovations made from paper and board – **be it a paper igloo, cardboard furniture or sustainable mulch paper.** And more prospects are opening up, in areas such as bio-economy, architecture or health technology.

The challenge is to develop **the efficient products of tomorrow** from today's creative ideas – in your business, in the industry and at Heimbach. Let's get started!

Enjoy reading!

Best wishes,
Peter Michels



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Hot Gas Filtration in Power Stations
Incineration of Paper Sludge mastered

Heimbach-Group is most likely known to you first and foremost as a supplier of machine clothing because the PMC (Paper Machine Clothing) business division has supplied you with fabrics, felts and belts for all sections of the paper machine. In addition to PMC, technical textiles and filtration are additional areas of competence for us from which papermakers can also profit: Our colleagues often provide precious additional benefits in order to improve processes or products. Today Heimbach-Filtration discusses how the use of filter bags can help to significantly reduce incineration emissions.

Oliver Kunze with a high temperature needle felt.

A key part of our affiliated company's product range includes special needle felt filter media that paper producers running their own power stations in order to dispose of paper sludge can use in their incineration processes. It's worth it: **"Save money and the environment"** is the motto for customers who use Filtration technology from Heimbach.

Waste paper – a constant issue for papermakers

Even before the forming section comes into play the course has been set for best paper. At a time that the condition of waste paper is deteriorating, the **quality of fibres in the mix** becomes an increasingly critical factor. This is all the more important because, as we all know, recycled fibre content in paper machine furnish is constantly on the rise – even in the case of higher-value papers. Therefore, if fibre qualities must fulfill ever-higher demands, this can (if necessary) be achieved with a deliberately increased **reject rate in the processing** of recovered paper. This results in more paper sludge which today is largely incinerated in power stations in order to produce energy.

Good for humans, nature and budget

Many million tons of paper sludge are generated worldwide every year – with an upward tendency! This is not only due to the fact that the use of waste paper has increased over the years, but also due to increased production of packaging papers, which leads to the creation of more de-inking sludge that must be incinerated. This places crucial **importance on the role of hot gas filtration** in the incineration process – in many different ways. The aim remains the same because what is required is a reduction of all incineration emissions in the most efficient way so that both **humans and nature can enjoy air that is as clean as possible**. At the same time, however, the total operating costs of the power station must be considered in decision-making: And even if textile filter bags represent only a small portion of the cost in relation to the total technology, here, too, savings potential can be realised.

Understand customers – master the chemistry

Oliver Kunze, Regional Sales Manager at Heimbach-Filtration, summarises the terms of paper sludge incineration as follows: **"Dioxins, furans and acid flue gas particles must be reduced as much as possible**, something we achieve with substances that need sufficient time in order to react in the filter cake." Dioxins are poisonous, organic compounds of chlorine and hydrocarbon; furans rank among the annular compounds.

It's good when high temperature needle felts are not only stable, but above all safe. Heimbach-Filtration uses a wide range of materials and surface finishes: There are, for example, product solutions made from PTFE or PTFE-PI-mixed felts and in some cases even glass fibre fabrics with ePTFE membranes are utilised (fig. 1).

Know-how for highest satisfaction

This is how we ensure that our **promise can be kept** permanently: Every customer obtains his or her **"tailor-made solution" – worldwide and for virtually every application.** You define which substances you wish to filter; Heimbach-Filtration supplies solutions that are tailor-made in the true sense of the word. This is because even today meticulous manual work forms a part of the manufacture of customer-specific products: **"Dimensional stability in the process is the result of dimensional accuracy in manufacturing"**, Kunze explains. Filter media from Heimbach regularly win customers over with the best results and years of service life, as he reports: "Sometimes they are even a genuine refinement of the installation." In practice quality shows itself not only in accuracy of fit but also "when in **each cleaning cycle the filter cake is discharged in the direction of the hopper as efficiently as possible** so that filtration can start anew", according to Kunze.

More than just a "product"

Consulting, installation and monitoring (fig. 2) have at least as much importance in practice as the filter bag itself: "All in all customers achieve maximum benefit which comprises **service life, costs and performance**", says Kunze. Results of decades of expertise – especially in the area of hot gas filtration: Colleagues based in Düren/Germany and Boras/Sweden recognise and understand processing details and integrate these in your filtration solution, so that you are able to **get the optimum from your needle felts**: maximum lifetime, problem-free service life, no clogging. For paper sludge incineration, **products with a " Series 90 " PTFE surface coating** are the best fit: "Because this special coating is ideally suited to the filtering of dust that is adhesive, moist and agglomerating", Kunze explains.

Relevant raw materials

- Polyester* (PET)
- Polypropylene* (PP)
- Polyamide (PA)
- Polyarcylnitrile* (PAN) (homopolymer)
- m-Aramid* (MPD-I)
- Polyphenylene sulphide* (PPS)
- Polyimide (PI)
- Polytetrafluorethylene* (PTFE)
- Glass
- Filter media with laminated on ePTFE membrane

* conductive upon request

Filter media and construction features

cascade.2
Felts with multi-layer structure

solit.AIR
Microfibre felts

carat.2
Special blended felts

road.STAR
for asphalt-mixing plants

atro.TOP
for vacuum-belt filter and rotary drum filter

bolero.
for filter presses

blue.MISSION
filter elements with taped seams

blue.PRESS
for automatic filter presses

Surface design and equipment

- singed
- glazed
- calendered

- oil- and water-repellent
- acid/hydrolysis protected

- *serie.90* especially suited for adhesive, moist and agglomerating dusts

Fig. 1: Filtration in overview.

task.

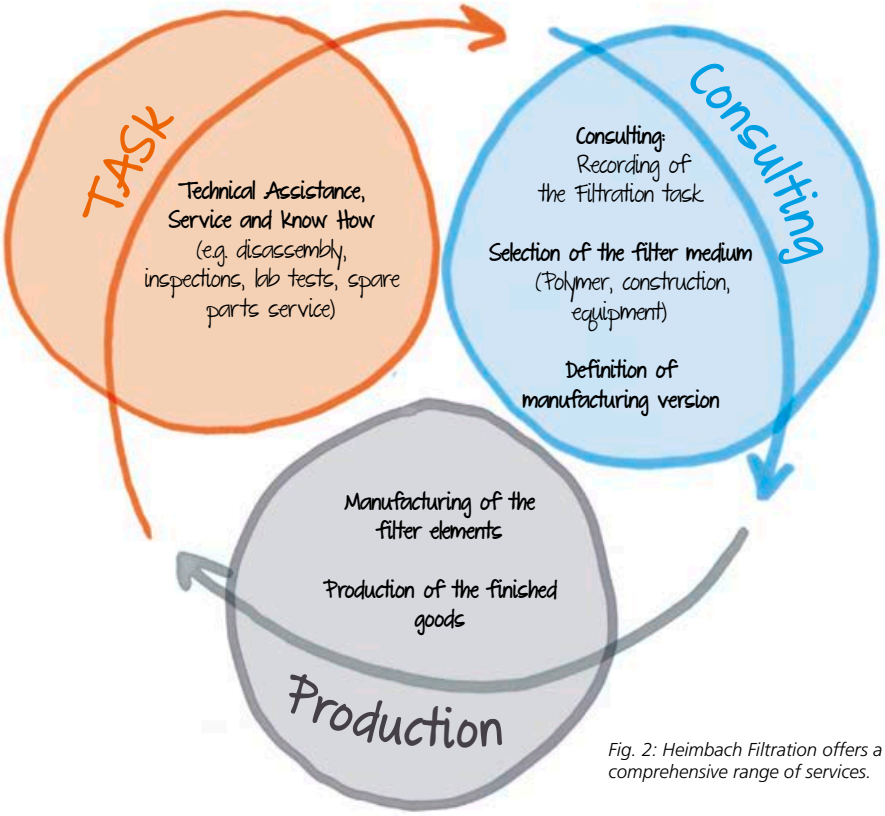


Fig. 2: Heimbach Filtration offers a comprehensive range of services.

Service helps – always

Worldwide – daily – available around the clock: This is how you know our expert TASK engineers who specialise in paper machines. The Filtration Division also has its own service unit, which means: install, control, optimise. Always done in such a way that the production process can go on unhindered and power stations are constantly available. Our engineers know and understand **filter systems down to the last detail** and can guarantee the contamination-free replacement of filter bags. All colleagues are SCC certified (safety certificate contractors) and take part in regular safety training: "Whether it's a matter of **maintenance, inspection or delivery of spare parts** – no problem for our TASK colleagues", Kunze reports.

Everything you need

You will receive all valves, supporting cages, seals, etc., simply everything that your filtration facility needs. TASK is your reliable partner and provides **laboratory tests, service life prognosis, status analysis or damage investigation** whenever required. Process assistance is particularly important when something has to be clarified: "Classic scenarios are when the operating point was changed, you drove through the dew point or a duct leakage in the Eco/Boiler was registered. It can also happen that the differential pressure "runs away" due to massive deposit build-up at the bags", Kunze explains. **This is where the patented HEC express cleaning system comes in:** "HEC" stands for "high efficiency cleaning".

Photo 1: "HEC" in operation.

Cleaning at its finest

The name says it all because this special equipment sends very strong bursts of pressurised air into the filter bag so that incrustations are cleaned efficiently (picture 1). **Your filter system can "breathe freely" again and the operation is carried out** swiftly as only cover and nozzle pipes need to be dismantled. HEC cleaning can (as a rule) be applied during "n-1-operation" and the equipment **cleans up to 1,000 filter elements per day!** Your power station operation can be maintained. High availability thanks to high quality – or: Heimbach-Filtration.

We look forward to your questions!

Are you looking for filter media for incineration processes?

Oliver Kunze and his team are happy to advise you.

Phone: (+49) 2421/802-422
Mobile: (+49) 160/90 57 67 72
email: oliver.kunze@heimbach.com

In Profile

Sales and Development teams strengthened

New members of team Heimbach: Tobias Golks and Phil Wübbeling

A short while ago we were able to recruit two real sporting aces to the ranks of our colleagues. Young, well-educated, motivated and football fans – that is the profile of the two young men. Phil Wübbeling, 24 years old, joined the East European sales team in August 2017. Tobias Golks, born in 1992, has been with us for a little longer - four months to be precise. What other connections are there between them? A keen interest in paper!

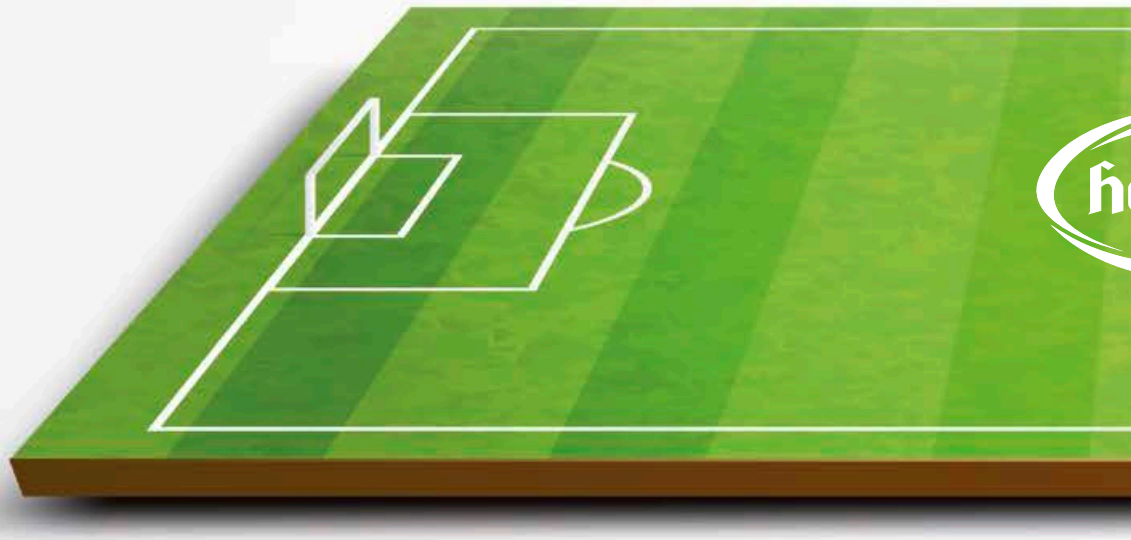
As **Product Manager Pressing, Belting and Drying**, Golks has already made a name for himself amongst some of our customers. In April of last year the trained paper technologist started working in our Applications group and has been bringing the knowledge he gained at university and in his professional training to the development of new products.

Different perspectives

"It is quite interesting when you switch sides, so to speak. **Prior to joining Heimbach I had always been directly involved with paper itself – now it is machine clothing**", confirmed the supporter of Bundesliga football team 1. FC Köln, who is also a member of this traditional Rhineland club. His "life in paper" started in 2009 after leaving school, when Golks began his training as a **paper technologist at Smurfit Kappa Paper, Zulpich**, completing the course in 2012. During this "sandwich" course he also attended the Paper Technology Vocational College. On completion of these studies, Golks became not only a fully qualified Paper Technologist, but also gained a University entrance qualification..

Theory complemented by practice

This was, however, not enough for the ambitious "paper fan", as he next focused on gaining **experience in a five-shift manufacturing operation**. Employed as paper technologist in the company where he completed his training, Golks worked on a paper machine for almost a year: "a time that was both instructive and varied", recalls



the keen recreational athlete who enjoys jogging and cycling. A regular visitor at various sports stadiums, Golks commenced studies at **Munich University in 2013, specializing in Paper Technology**. After graduating as "Bachelor of Engineering" he has now exchanged his place in the lecture hall for a desk at our Düren site: "The concept of teamwork is very important to me, and I felt well-integrated from the beginning."

From north to west

This applies just as much to Phil Wübbeling in his daily job: The paper technologist is now a contact partner for customers in Eastern Europe. **Here much expertise is needed**, something that this man from Hoya in Lower Saxony undoubtedly possesses. The town of Hoya lies between Bremen and Hannover. It was at the local **Smurfit Kappa paper mill that Wübbeling completed his apprenticeship as paper technologist**. This was followed by three years gaining practical experience in the same company, working on a corrugated board machine. The keen supporter of Bundesliga football team Werder Bremen subsequently continued his training in Munich to become a **certified engineer with a specialization in paper technology**.

Thorough training

Wübbeling was able to gain additional qualifications with TÜV Süd (Technical Control Board) in Munich as a QM specialist as well as a QM representative. Now he applies his expertise in practice and, as **"Sales and Service Manager East Europe" – is making new contacts with enthusiasm**. His theoretical and practical know-how is of particular benefit to manufacturers of folding boxboard: The topic of the thesis that completed his technical training was entitled **"Migration of mineral oils through folding boxboard – prevention by means of activated carbon".**

There's nothing better than football

Wübbeling, too, enjoys the round leather ball: "My leisure time is mostly dedicated to football, **playing for the local team as well** as watching it either live in the stadium or on TV." After the day's work is over, sport is almost always on the agenda: "Jogging or the gym give good balance to my daily routine and I would say that I am **a great sports enthusiast** who likes to keep fit outdoors", Wübbeling reports. He has adapted well to life in the Rhineland: "So far I have not made many acquaintances here, but that will soon change, I'm sure", he looks ahead with optimism. We couldn't agree more and extend a warm welcome to our two new colleagues!

New Technology – Better Paper

More and more papermakers are turning to New Technology Seam Felts

Whilst in former times papermakers used only endless felts in the press section, more and more are now turning towards seamed designs. Continuous optimization and further development of press felts is therefore a must for Heimbach if we are to keep pace with increasing quality and mechanical demands. This naturally requires the application of new technologies to our seamed products. Learn here what has changed over time thanks to state-of-the-art production processes.

Franz Kiefer, Strategic Product Manager Pressing.

With the introduction of the first seam felts almost 40 years ago a remarkable success story began: Today every fifth felt installed worldwide is of the seamed variety and **in Europe every third** (see fig. 1) – not least because Heimbach has always been a stronghold for press felts and from here innovations can quickly reach Europe and other continents.

New safety

Compared to endless clothing Connect felts score with the safety factor, which was already in the foreground during the development of the first seamed designs.

Franz Kiefer, Strategic Product Manager Pressing, says: "**Improving work safety during installation** has always been a focal point for us – and today it is more important than ever!" In addition, easy handling and speedy installation are important arguments since **fewer employees are required to change felts and production can be re-started within a short time**. And performance is also convincing, because "in terms of performance and service life modern seam felts are absolutely equal to endless felts!" Kiefer compares.

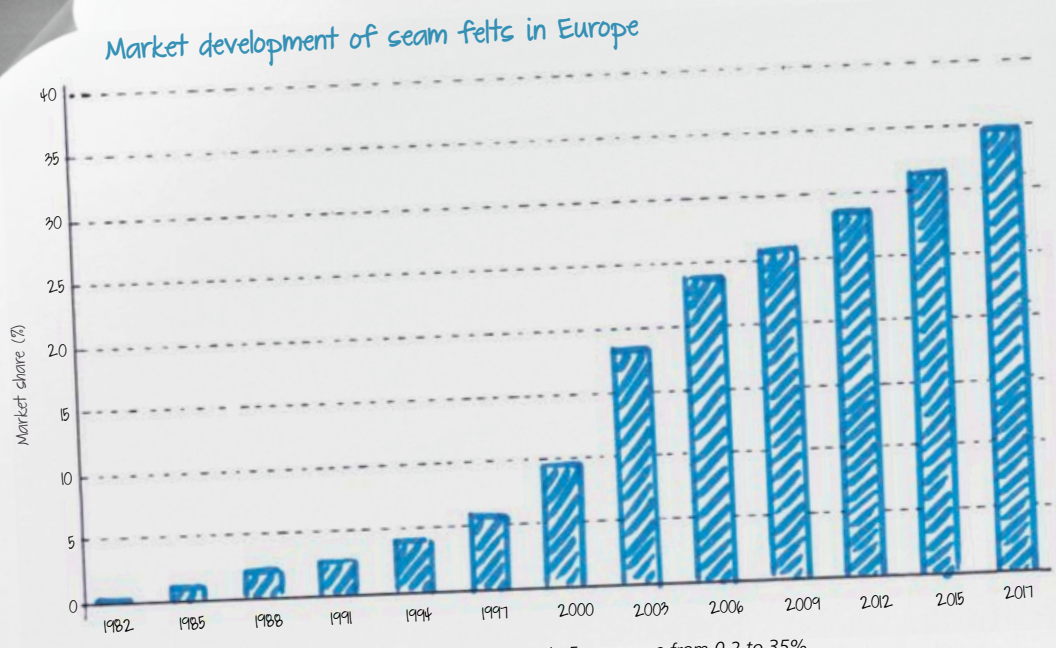


Fig. 1: Between 1982 and 2017 seam felt market share in Europe rose from 0.2 to 35%.

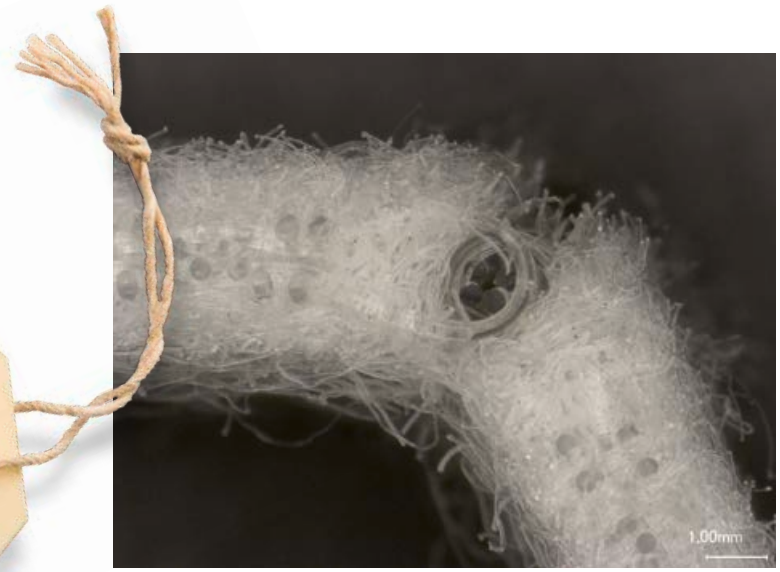


Photo 1: Cutting angle of the seam in the cross direction.

Photo 2: Earlier version of seam overlap.

Photo 3: Real progress against wear – today's version of seam overlap.

New process

Arguments, all of which are equally applicable to New Technology seam felts. When thinking about added value individual quality characteristics are of particular importance – primarily low marking potential: "As a rule classic seam felts have a double layer base that is woven in a circular way", the pressing expert explains. **The base layer is exclusively made of monofilaments** and is, in analogy with endless felts, needled with batt. At the end of the manufacturing process the batt is cut above the seam in the cross direction (photo 1): "This happens at a precisely defined angle", Kiefer explains in more detail, resulting in "a **compact and durable seam overlap** which helps to provide the best paper qualities." This covers the seam when in operation, thus preventing topographical markings in the paper. Photos 2 and 3 show the progress made in the execution of the seam overlap.

New system

"Unlike in former times, **seam strength is much higher today**", Kiefer reports. The real progress made by product engineers can be clearly seen in the micro-photographs (photo 4) because the **base layers – and above all the seam loops – are significantly less damaged during today's needling process** than was the case with earlier production methods: "This is first and foremost thanks to modern needles and a special needling technique", says the product manager. Clearly, every detail of manufacturing matters when the end result must be able to work for as many paper grades as possible, as Kiefer states: "In the last few years **the system has been improved bit by bit**, with our team setting different points of emphasis each time".

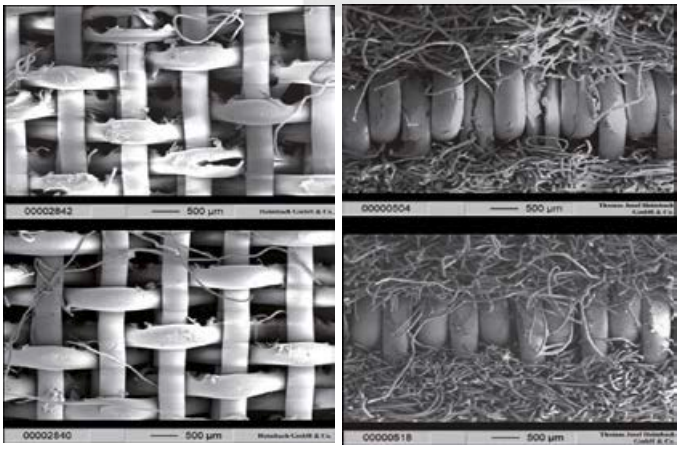


Photo 4: Real progress for more stability – base layer damage significantly reduced (old system above, new system below).

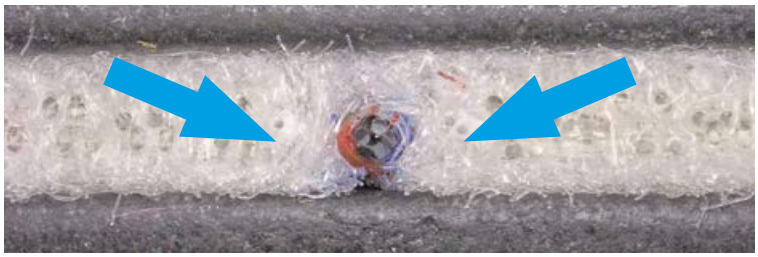


Photo 5: Integrated filler yarn system.

New thinking

One focal point was the **optimisation of the filler yarn system** in the seam: This guarantees both good fibre anchorage and homogenous water permeability in the seam area. Thanks to the combination of thinner monofilaments with this optimised system **"application even for very sensitive paper grades is no longer a problem"**, Kiefer confirms. Photo 5 shows the integrated filler yarn system in close-up. Previously it was impossible to use seam felts for production of sensitive paper grades and seam life was short because in the early stages of seam felt development the filler yarn system was non-existent. Meanwhile, Connect solutions have also become standard even for customers in the graphic segment, leading Kiefer to promise – **"New Technology will become the new norm"**.

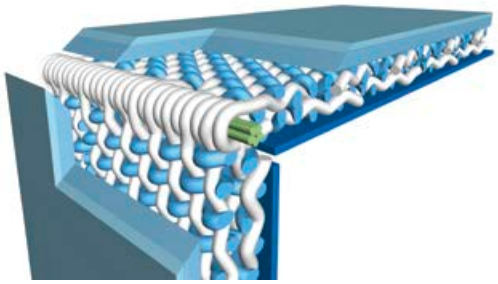
New opportunities

Nowadays around 75% of all press felts supplied by Heimbach are New Tech solutions: **"And in the case of seam felts it is already almost 56%"**, he calculates. A few references can be seen in the adjacent table. **"New Technology" – as the name suggests – results from "New Tech press felt technology" on which it is based, which includes for example non-woven or multiaxial systems:** These products comprise Atromaxx (multiaxial technology), Atrocross (non-woven technology), Atrolink (combination: non-woven/multiaxial) and Atrojet (multiaxial non-woven technology): "Whereby the latter product range – the jet ski amongst press felts – is the **next seam felt project that we are going to tackle**", explains Kiefer, already looking ahead. After all, Atrojet users should also be able to obtain Connect varieties in the future.

The products that we are now presenting to you in more detail are already available as **New Technology seam felts**.

Atromaxx.Connect

This seam felt family comprises multiaxial designs whose monofilament diameters vary from 0.35 to 0.50 mm. They cover the **complete spectrum, from lightweight paper grades to pulp**. The diagonal structure of the base layers (as with all multiaxial felts) provides "excellent compaction resistance, which assures reliable performance over the entire life time", as Kiefer explains. **For packaging papers in particular**, these designs are the first choice. Easy seam closing and low marking potential convince, as well as consistent pore volumes and high and even dewatering. **Atromaxx.Connect benefits from above average resistance to contamination** and "gives very good results in positions where tension variations can occur", reports our press specialist.



atromaxx. CONNECT

Example 1

Machine type: Sympress-1 with Symbelt
Speed: 950 m/min
Width: 10 m
Paper grade: Kraftliner, 100–200 g/m²
3rd press top: Atromaxx.Connect
3rd press bottom: Atromaxx.Connect

Result: **Felts operate perfectly over required lifetime of 70 days.**

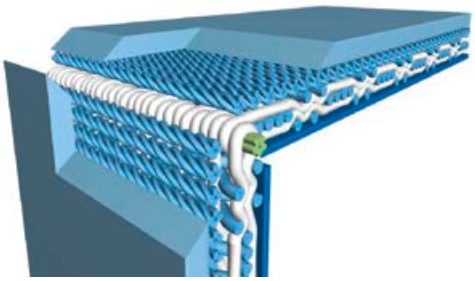
Example 2

Machine type: TRI-VENT with 4th press free-standing
Speed: 1,500 m/min
Width: 9.20 m
Paper grade: Standard newsprint, 40–45 g/m²
Pick-up felt: Atrocross.F.Connect
3rd press: Atrocross.F.Connect
4th press: Atrocross.F.Connect

Result: **Very easy to close, very good dewatering, very consistent operation with extremely low sheet break rate.**

Atrocross.F.Connect – Atrolink.Connect

These two design types are **based predominantly on non-woven technology**: "The new concepts enabled us to transfer specific characteristics of Atrocross onto seam felts", adds Kiefer. **The Atrocross base layer is homogenous and almost incompressible:** "Under pressure the void volume of Atrocross is very small – as a result nip dewatering is automatically enforced", he explains. Extremely fast start-ups and outstanding dewatering characteristics prove our high quality standards – for papermakers **producing graphic grades as well as manufacturers of packaging papers and board**. Both product families also distinguish themselves with seams that are both quick and easy to close and minimal marking potential. Pore volume remains high across the entire felt life.



atrocross.F
CONNECT

Clear labelling, easy installation

Connect felts can be closed quickly, easily and safely: Clear symbols and instructions are always included. If you need details regarding installation, **in particular with our "Kite" installation aid** – please refer to our 01/2015 issue, in which Paper Pete explains everything step by step. A PDF is available on request by email: heimbach-paper@heimbach.com.

Example 3

Machine type: Tandem shoe press
Speed: 750 m/min
Width: 7.40 m
Paper grade: Chromoboard, 220–480 g/m²
Couch Press: Atromaxx.Connect
Pick-up felt: Atromaxx.Connect
2nd press top: Atrolink.Connect
2nd press bottom: Atromaxx.Connect

Result: **Good dewatering, ran marking free over a lifetime of more than 100 days.**

Example 4

Machine type: Duocentri-2 Nipcoflex
Speed: 1,620 m/min
Width: 8.10 m
Paper grade: LWC, 39–56 g/m² (untreated)
Pick-up felt: Atrocross.F.Connect

Result: **Rapid start-up and very high dewatering over a lifetime of five weeks – benchmark for the future!**

Example 5

Machine type: Pick-up with extended nip press and shoe press
Speed: 1,030 m/min
Width: 7.40 m
Paper grade: Kraft and sack paper, 70–90 g/m²
Pick-up felt: Atrolink.Connect
1st press bottom: Atromaxx.Connect
3rd shoe press: Atromaxx.Connect

Result: **Very good performance: Atrolink has significantly increased production in the pick-up.**

Record time for Seam Felt change
Paper Pete does it

Dear papermakers,

When seam felts on shoe presses (SP) have to be changed the usual procedure is that the press is opened. This is not, however, always necessary! In today's example from best practice we show you how a felt can be successfully changed – even when the SP is closed. This means time and cost savings: a real benefit for papermakers. Today's case concerns our customer, Klingele, with whose support this article was written. This family business is one of Germany's five largest producers of corrugating base and packaging papers.

Our task was to **change the Connect felt on their PM2 as efficiently as possible**. On this 510 cm wide machine Klingele produces Testliner and corrugated board at speeds up to 1,000 metres per minute.

Planning is everything

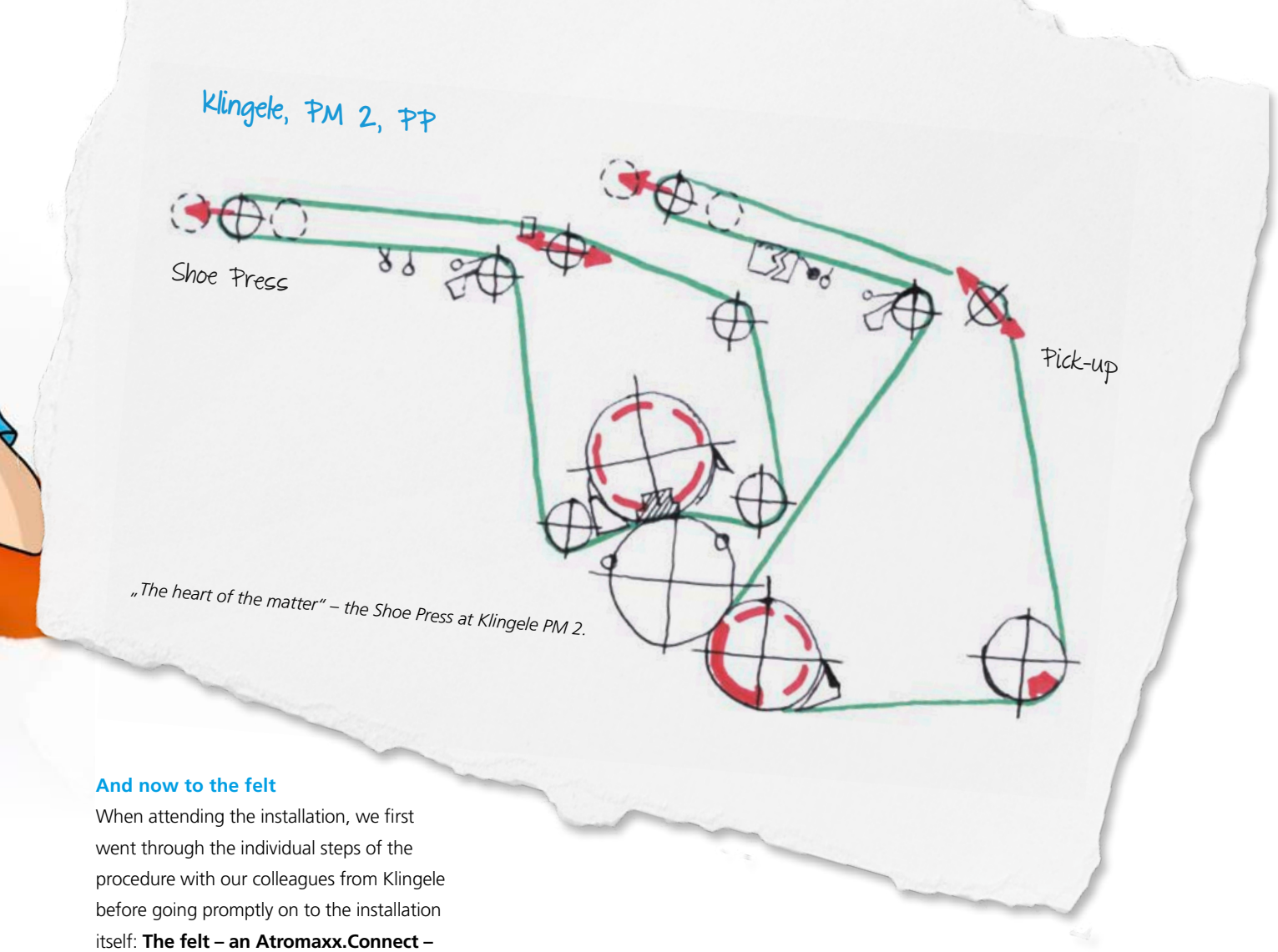
My colleague Josef Kosse rolled up our CAD machine drawing (fig. 1) and we drove to the customer. To begin with **all machine details were discussed on site by means of the drawing**. We started by carefully studying and examining the individual press components and their exact positions before developing the basic concept together with Klingele. Of course – and as always – we kept in mind the primary aim when changing clothing: **Keep shut times as short as possible!** And in order for this to work good planning and intensive preparation are half the battle. Here's the key: **The SP should remain closed** in order to reduce the time for felt changes to a level that means real cash for Klingele.

It's all about the nip

"You can combine the best seam felt with the most up-to-date technology, but this may still not work unless the craftsmanship is also there", Josef puts it succinctly. In order to perform precisely as it should the machine must be **taken apart in the head**, so to speak. And when dealing with applications in the press section it is often said: "The key tip is often in the nip!" Just like here, as we had to **analyse not only the entire press but all other details around it as well, in order to find out which nip configuration had been applied**. An essential job that requires a lot of experience and know-how.

Prepared to the last detail

In this case our analysis of the press design revealed quite clearly: **The SP does not need to be lifted**, in which case the points precisely before and after the nip are crucial. So much for the theory – but what does the practice say? After everything had been discussed we went to the shop floor to check the machine itself. We closely examined all elements of the SP and checked individual components. Our theory was confirmed: **The SP can remain closed!** So far, so good; the concept was agreed, its feasibility established. Back at Heimbach our Product Managers determined the correct seam felt design for the application.



„The heart of the matter" – the Shoe Press at Klingele PM 2.

And now to the felt

When attending the installation, we first went through the individual steps of the procedure with our colleagues from Klingele before going promptly on to the installation itself: **The felt – an Atromaxx.Connect – had of course to be installed in the run direction** – that was clear. The internal air pressure pump was stopped; the press remained untouched, "bones" did not have to be disassembled. The seam felt lay in the unwinding device, ready for installation (photo 1) – of course **absolutely level as flatness is crucial both before entering as well as after the nip**! Especially in the nip outlet, where water deflector and saveall are located, both of which must not be damaged. Thanks to the special finishing of the felt collisions are impossible.

Photo 1: Atromaxx.Connect (still in its' protective wrapping) ready for installation.

Photo 2: Important – the strap must not be twisted at any point!

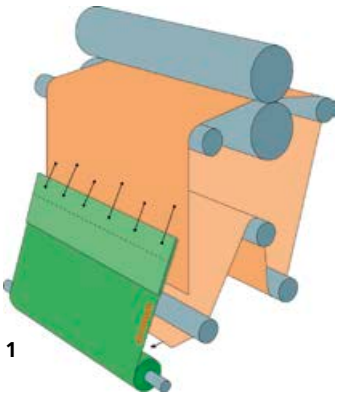
Photo 3: Only one buckle in use (curving upwards).

Photo 4: Ready for pulling in.

Photo 5: Exit from the Shoe Press – very flat and even.

You can rely on the kite

The adjustable strap lay evenly throughout the entire SP loop; it was not twisted at any point. Moreover, only one single buckle was used: **The felt ran neatly into the nip – and thanks to the installation aid it ran out evenly as well** (photos 2-5). Once we had arrived at the closing position the zipper, and so the seam, was closed and all aids were removed: A completely stress free operation – **in particular thanks to the "kite", as we call it**. Perhaps loyal readers may remember: It was my very first project, which I was privileged to introduce in my column "Best practice from practical



1

Great teamwork: Only 50 minutes from preparation to start-up!

Klingele Papierwerke

Klingele was founded in 1920 and is among the five largest producers of corrugated base and packaging papers in Germany. Two paper mills, twelve corrugated board and eight converting plants in Europe, Africa and Central America form part of the corporate group. Dr Jan Klingele manages the ***family business in its third generation****. Klingele is one of four "Blue Box Partners", a European business alliance that makes the following claims: "The optimal supply of corrugated board packaging to their customers.* ***Everywhere in Europe. From a single source. In any quantity. In all qualities.*** *At any time." Approximately 2,400 employees work to this goal, generating total sales of around 620 Million Euros in 2016.*

experience" (see edition 01/15, pages 12-14). In that article you were able to find out for the first time why the "kite" significantly simplifies every seam felt installation. It is constantly being developed and optimised, but the basic functionality has never changed.

Convincing result

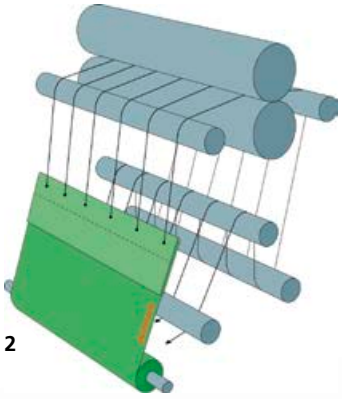
To make sure everything works smoothly, please always remember: **Patience and attentiveness pay off!** For one thing the adjustable strap must never be twisted; for another the most important parameter when passing through the nip is the distance between shoe and centre roll, a fact that must always be taken into account. The felt must be guided through the **SP with an absolutely consistent speed** in order to keep the tension as even as possible: Because tension variations are just as damaging as pulling too fast. So be sure to avoid a "stop-and-go" installation. Then everything works like a charm! Just as in the case of Klingele, **where the plan not to open the SP came to fruition**!

Happy customer

This will certainly not remain an individual case because even if this was a pioneering achievement **similar results are possible with similar configurations**. If the standard procedure takes approximately 2 ½ hours, we only spent 50 minutes at Klingele. Not a bad result for a single process change. A targeted and conscientious response to a customer request has, as usual, paid off. **We would be happy to discuss with you whether your** next seam felt change would also be possible with the press remaining closed. My next project of this kind is already in preparation.

Best wishes,

Your Paper Pete



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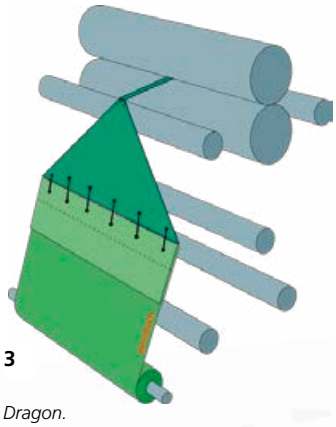


3

Dragon.

Progress and Sustainability
Stora Enso reports on recent successes

More than two years ago we conducted an interview with Jan-Erik Karlsson, Superintendent on PM4 at Stora Enso Hylte Mill, Hyltebruk/Sweden a long-standing customer of Heimbach. At that time the mill was going through a restructuring phase; now Jan-Erik Karlsson once again answers our questions: In this interview he comments and provides his insight on the current situation in the Finnish-Swedish timber and paper company.

Jan-Erik Karlsson (left) and Lars Nilsson (Heimbach) in front of PM4.

Stora Enso's mission is to inspire the market with sustainable paper solutions. The company stands for the **appeal of paper** in communication, education and the creative media sectors.

impressive

Since our last conversation in the summer of 2015 competition in the newsprint segment has further intensified. How do you survive and prosper in a market that is so fiercely contested?

Jan-Erik Karlsson

The focus is important! The recipe for success lies in a variety of factors: Firstly, we must focus on achieving the **highest possible efficiency** in producing top-quality papers that must stand the test of time. Second, the cost structure is an important factor that can determine success or failure. **Assessing how to reduce production costs per ton of paper is a daily activity for us.** Third, top quality in production is imperative. When our customer is satisfied, so are we!

impressive

Sounds like a massive challenge.

Jan-Erik Karlsson

That's right. Stora Enso is continually developing both products and services.

Stora Enso, Section Paper

The name of Stora Enso is most familiar to manufacturers of printed matter and office supplies as ***a supplier with sustainable credentials that develops, produces and delivers recyclable paper solutions:*** *Printers, publishing houses, wholesalers, resellers, stationers, or suppliers of office equipment – all customers receive tailor-made papers for their specific needs. In addition to paper for classic newsprint the portfolio comprises papers for book print and super-calandered magazine paper. Stora products are used to create magazines, journals, brochures, notebooks or artistic media, among other things.*

We are always **striving for innovative solutions** that convince customers, such as light-weight grades: Producing such papers requires fewer raw materials without reducing quality or printability. And this is just one of many examples.

impressive

You are investing twelve million Euros at Hyltebruk in the construction of a new production line for bio-composites. Can you tell us a little bit more about this?

Jan-Erik Karlsson

Of course! We recently started producing bio-composite granules, which allow us to replace fossil components with wood. We have projected production of 15,000 tons per year which would **increase turnover by around 25 million Euros.** 20 new jobs have been created. A very positive signal – also for the Hylte site.

impressive

What is produced from these special granules?

Jan-Erik Karlsson

A lot - such as washing-up brushes, bowls, cups or pallets for industrial purposes.

An especially **interesting growth market is the construction industry** which is looking for structural components reinforced with fibre glass. All in all, this represents an area of great demand, which we satisfy with alternatives to classic plastic solutions – good for business, good for nature!

impressive

Sustainability is more than just a buzzword for your company: What efforts are you making in order to reduce environmental impact?

Jan-Erik Karlsson

The most important thing is to **continually reduce the use of fossil fuels**! We will soon install a state of the art gas turbine, which is another step in the right direction. Overall we are well positioned in terms of environmental protection. Stora Enso's sustainability guidelines, applicable to all sites, include among other things a **specific environmental policy** that keeps reminding us to produce as sustainably as possible.

impressive

In our last interview you reported on positive experiences with Heimbach seam felts. In the forming section of your PM4 you are now using 100% Primobond.F. How did that happen?

Jan-Erik Karlsson

Stability, life time and reproducibility impressed us right from the start! Primobond.F. delivers **very good results throughout its lifetime – resulting in an increase in cost efficiency**. The fabric life time was established at twelve weeks within a very short time. Most of all we are convinced by the **harmony between dewatering, life time and paper quality** – it all just matches perfectly! Reliability is also a must in the context of machine clothing – and now Heimbach has delivered the best quality with forming fabrics, in addition to press felts.

impressive

Besides high quality products – what are the main factors for you in a long-term relationship with clothing suppliers?

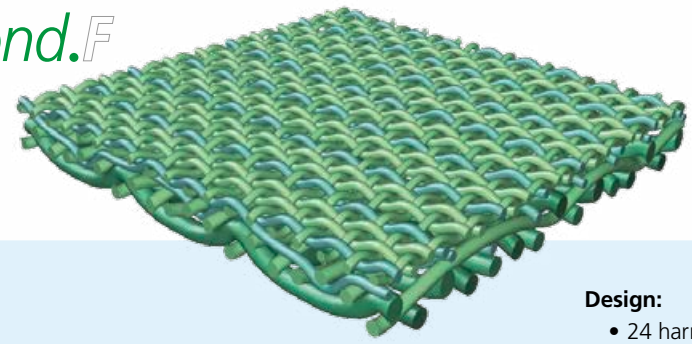
Jan-Erik Karlsson

High reliability matters a great deal! Delivery times must be kept because our production is strictly clocked. **Cooperation has to be right, and agreements must be respected** – especially when an issue needs to be resolved. Good service is also important – and this is always ensured with our contact at Heimbach, Lars Nilsson. And, of course, a **good price/ performance ratio also helps** to determine the allocation of individual positions.

impressive

Many thanks for the interview!

primobond.F



Primobond.F in 3-D view.

INFOBOX

Primobond – The allrounder at a glance

Product	Suffix	MD Mesh (/cm)	Board	Fluting	Kraft	Fine	News	Magazine uncoated	Magazine coated	Tissue
primobond	HD	22	✔	✔	✔					
primobond	F	29	✔	✔	✔	✔	✔	✔	✔	
primobond	SF	35				✔	✔	✔	✔	✔

Design:

- 24 harness weft bound SSB
- 1:1, 2:1 and 3:2 weft ratio

Features:

- 6 shaft machineside
- Plain weave paperside
- Machineside yarns: Polyester/Polyamide, NRG (energy optimized yarns)
- High fibre support properties

Benefits

- High drainage capacity
- High fibre support = high retention
- Fine paperside surface = low marking potential
- Low void volume = low water carry potential
- High wear volume and dimensional stability = increased life potential

Old material – new opportunities
Beyond dispute – The future sustainability of paper

Seeking another word for versatility? – Paper! Whether it's paper tissues with "healing properties" or vehicle panels of all kinds – internal or external. Whether it's interactive smart wallpaper with e-learning functions or accommodation containers from paperboard that are just as flexible as the material they are made of: Paper is here, there and everywhere, a – supposedly – old product, which is indeed very rich in tradition but no less promising for the future as well! The 2014 FIBRE AND PAPER 2030 study provides ample proof of this.

The European paper industry will **continue to satisfy classic demands** including, for example, public bodies, the insurance trade, and advertising as well as journals and magazines. Paper or printed paper will never "die out" – even though its value in absolute terms may decrease.

Abundant potential

First there was globalization, now we have digitization. Whatever this means for each business in real terms – the fact remains: Paper has a future because it may be termed "multi-talented" with absolute confidence. **In the future there will be more opportunities** – and not less, as skeptics insist. Flexibility is needed in the search for new and innovative business areas; this applies equally to people and materials. **There is an abundance of ideas and markets.** We must implement – implement and accept that many things are different now than they were before; and different means good.

Confident sector

The paper industry has significant arguments wherever proof is needed for the assertion that **it will play a major part in the future**: When we consider, for example, the use of renewable resources, it is well known that the paper industry is the one that puts sustainability first. The cycle of **value creation and recycling has a higher profile in our industry than in almost any other economic sector**! The sector is also in a leading position with regard to the rate of recycling: This can be strengthened and expanded if we manage bit by bit to **translate the suggestions of the study into products**, which means added value. This is our opportunity!

Ideas for tomorrow – and beyond

Almost 1,500 suggestions for which paper can play a role have been evaluated by experts of the Paper Technology Foundation (PTS) in Munich. Of these, **375 ideas have been classed as "paper based"**, which means that actual products can be developed relatively quickly. There is enough know-how, and the "value-chain of paper" offers plenty of points of reference. The study provides a theoretical framework that shows additional – and completely novel – fields of application for various paper grades. Now it is a **question of putting them into practice in order to be able to introduce competitive solutions onto the market**. Extensive development work lies ahead of us.

Direction: Forward!

Innovations are developed and then refined. **The industry is undergoing structural change** – the study demonstrates this strikingly. The PTS experts have identified eight subject areas. In one of the areas they concentrate on housing and shed light on how we will – **thanks to paper** – live and work in the future. Close to this sector are product ideas concerning future cities & architecture. Here, for example, there is talk of **paper fibre-reinforced concrete**, one of the many ideas of the "Future city architecture" working group, which makes building and living "paper-based".

Sector diversity means markets

In addition to the permanently relevant nutrition and health/hygiene sectors, digitization is also gaining in importance: One of the subject areas of the study focuses on **opportunities derived from information, communication, education and knowledge**. Also very interesting are outcomes of the study concerning the fields of mobility and logistics: For example, **fireproof paperboard for internal cladding of aircraft** is discussed as a possibility. And even classic food tins can be replaced very well by paper solutions.


Source: Stange Design

Examples that inspire

The field that the authors call "general marginal conditions" sounds less significant than it really is. Here, for example, can be found details on fully **compostable eco-bags or paper that conducts electricity or that serves as an electronic carrier**: The latter refers to innovative sensor technology that connects state of the art components with inexpensive paper. An example of such technology in office life would be the scanning of fingerprints in order to access the contents of documents.

Mobile with paper

But let's take a **closer look now at tomorrow's living conditions** because in our globalized and digitized world the flexibility factor is of particular importance – even when we think of our own homes. Nowadays people are moving house more often than before; in addition, more and more people are working from home and create value without leaving their personal living environment. **Individualization and decentralization are facts of the future** that are already clearly noticeable today. People's living and working environments must be as flexible and dynamic as possible in order to keep pace with this development.

Paper for the future

Tomorrow's markets call for adaptable and versatile solutions which, moreover, can be recycled in the best possible way after use – something of a **home game for the paper industry**! After all, design diversity, modular capability and recycling are part of the everyday vocabulary of manufacturers of carton and paperboard in particular. It will be – the sooner the better – **modular design and conversion concepts** made from paper that not only make living and working spaces comfortable, but also sustainable because they are fully degradable.

Flexible – secure – clean

According to the study standardised wall and furniture modules face individual demands that result, for example, from frequent changes of residence or workplace. Here **the focus is on modular apartments and completely modular paper houses** that offer more convenience when relocating. And more than that: People that need help and depend on quick responses and support benefit from the same solutions through the provision of **light and secure accommodation** for those seeking shelter or protection. That's what paper is capable of! Even today, furniture from carton and paperboard is sought-after for personal spaces and offices: Consumers value price, strength, light-weight construction and recyclability in equal measure.

Keeping an eye on the ball

Even wallpaper, curtains and "temperature-controlling roller blinds" are no longer science fiction; and **light-weight computer casings that can be economically manufactured** are also being considered. But no matter whether it is about developing high-tech ideas or extending classic applications: **Paper carton and paperboard are highly relevant for the future** – because hardly any other material offers such wide-ranging features. There's no question, the sector was, is and remains an indispensable companion for everyday life: **Paper is business – paper is industrial culture – paper is the future!** Hence the title of this column.


Source: Yamaha-Motors

"More information at www.faser-papier-2030.de"

Heimbach Connect

Seam felt solutions for the press section

Connect designs available in Atrobond, Atrolink, Atromaxx, Atroplan and Atrocross.F

- Easy seamability
- Low potential for marking
- Quick and safe felt changes
- Constant void volume over long life spans
- Saving time and requiring fewer personnel
- Good performance in positions with tension variation