

impressive

ISSUE 2/2017

Speedy start-up with turbo effect

"fast forward" – a big hit

Efficiency in the forming section

Paper Pete looks at former hygiene

What you can expect from us

Improvements thanks to customer feedback

Qualified for the future

Apprentice training at Heimbach

Mulching paper instead of plastics

Environmentally friendly and long-lasting

Atrojet in pole position

High smoothness for packaging papers

Even at the time of its launch, in the autumn of 2015, Product Development personnel at Heimbach were certain: Atrojet represents the beginning of a **new era for press felts**. They kept their word, as with this product range Heimbach has been able to maintain

and even expand its market leadership in this speciality segment. **You can read from page 04 onwards what it is that makes Atrojet a star product for board and packaging papers.**

Dear customers,



In this edition we focus on topics concerning the board and packaging industry. This is a constantly growing and ever-expanding sector. **In our title story you can read about Atrojet**, the multiaxial press felt, which is being increasingly adopted by packaging paper manufacturers with great success.

The topic of carton board and packaging was also at the centre of the **first international packaging seminar** that we held at the end of May in Cologne. This two-day event included several expert contributions on topics related to the packaging industry and production, leading to animated exchanges between delegates and speakers.

The new start-up facilitator "fast forward", which effectively renders the famous phrase "money triangle" in the press section obsolete, is applicable not only for brown papers, but for most other grades as well. You will find more on this important extension to our product range inside this issue.

Of course Paper Pete has been active too: In his latest report on best practice from practical experience he tells us about **hygiene in the former section** – a fundamentally important aspect of successful paper production.

In addition, you can read why **apprenticeships and further training** are and always have been of **such importance at Heimbach**. You can also get to know one of our highly successful trainees, and learn about a **desert race** commemorating a famous vehicle whilst **supporting child education**.

I wish you success and prosperity in your business at all times and a wonderful summer!

Peter Michels

Peter Michels
Managing Director

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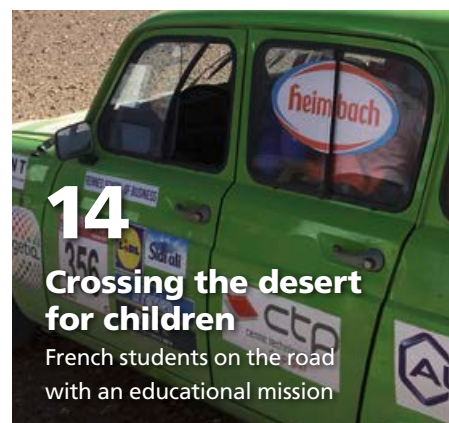
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Service First and Foremost Jelke Albrechtsen strengthens Heimbach TASK Team

The word “luck” plays an important part in the life of Jelke Albrechtsen. Hailing from the tranquil German town of Glückstadt (literally translated as “lucky town”), the 23-year-old has been a valuable addition to the Heimbach TASK team since joining last year. He also recalls his first encounter with Heimbach as a “stroke of luck”. Read more about our new colleague.

“My ambition had always been to work in a chemical laboratory”, says Albrechtsen who, from day one, has been working in Heimbach’s service department in international customer projects: “However, **a work placement made me aware of the paper industry.**” He explains that, most of all, it was the combination of technology and chemistry that drew him to the industry where Heimbach plies its’ trade.

Switching from the North to the West of Germany

In his hometown, a part of the metropolitan region of Hamburg lying directly on the river Elbe, Albrechtsen completed an apprenticeship as a technician in the field of paper technology after graduating from high school: “**A very interesting time**”, he recalls his successful years of working at a graphic paper manufacturer using 100% recycled paper. “**The experience was both instructive and exciting**”, was his summary. Now his journey continues in

Dueren, his new home town, which lies on the river Rur, and where he has settled in very well.

Starting from scratch

In his early years as a qualified technician, Albrechtsen operated a roll packaging machine before working on a variety of tasks on a paper machine: “This shaped me professionally, because it allowed me to start as a second technical assistant which in turn provided an opportunity **to train on the job towards becoming a machine operator**”, he reports. On establishing himself as part of the TASK team, he confirms: “It is certainly a **stroke of luck that I have been able to start working for TASK**, as there are very few jobs in the paper industry that are as varied as this.”

Inquisitive and ambitious

Having served Heimbach’s customers since August 2016 he acknowledges: “Every paper machine is different, every customer has different needs. **It is the variety that I like**

about working in TASK!” Albrechtsen is well-equipped in theory as well, since after his apprenticeship and time as a technician he completed an additional training course at a college for paper makers in Gernsbach, Germany: “From 2015 to 2016 I trained there to become a certified Industry Master in paper manufacturing”.

A team player first and foremost

This means a bank of up-to-date knowledge which Albrechtsen now brings to his on-site service: “**I really enjoy giving support and advice to customers.** Being able to help them move forward gives me great satisfaction.” This comes from someone who is not only an engaged team member at Heimbach TASK but is also **dedicated to handball**, as a goalkeeper: “For nearly 15 years now this sport has been my passion!” We wish him lots of luck in his chosen sport – and lots of success in the field of customer service.

Atrojet success continues

Now also for packaging paper

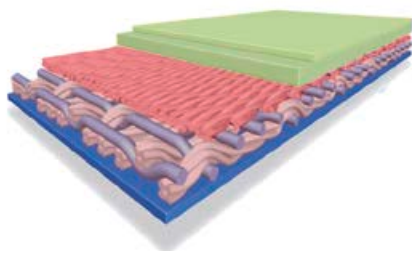
In the autumn of 2015 Heimbach became the first press felt manufacturer worldwide to introduce a design with a multi-axial non-woven structure. The key features of this product are excellent start-up and dewatering characteristics. Although originally targeted towards the tissue and graphic paper segments, Atrojet is now used successfully in the production of board and packaging as well.

No need to experiment! –
Play it safe with Atrojet
in terms of stability

Atrojet – Benefits at a glance

- Excellent start-up and dewatering
- Very smooth paper profiles – “smoothness from inside out”
- Superior dimensional stability
- Highest stability and resilience
- All positions – all grades – all machines
- Can be combined with “fast forward”.

atrojet.



*High paper side smoothness.
The substructure delivers both the necessary
void volume and a high wear potential.*

Continuing change and evolution in market conditions demand responses from us as machine clothing manufacturers so that we can fulfill the **ever-growing demand for tailor-made felts** for the production of grades such as corrugated paper, fluting and testliner. The “multi-talented” Atrojet design is a prime example of how we are meeting this challenge head on.

Clever yarn system

Paper side MD yarns can be flexibly designed in Atrojet construction, which means that yarn material, geometry and count can be precisely **tailored to suit the demands of individual machine positions**. MD alignment has a positive impact on tensile strength, which in Atrojet is very high in the run direction (in relation to weight). The tensile strength **decreases very little over the lifetime** of the felt: “And this is true for every position”, according to Franz Kiefer, Strategic Product Manager Pressing.

Very smooth paper profiles

The unique yarn system also allows us to create high paper side smoothness in the felts, capable of satisfying the highest demands. This in turn allows optimal load transmission to the paper, and the **resulting profiles speak for themselves**. For grades with high requirements in terms of printability Atrojet offers unique base layer designs.

These allow a level of uniformity to be achieved way beyond what has previously been technologically possible. This can be easily verified by measuring contact surfaces.

High performance assured

The substructure of Atrojet allows required void volume needs to be met. Long lifetimes can be achieved due to a high wear resistance potential. The multi-axial structure of **Atrojet modules means the product is highly resistant to compaction**, and as a result dewatering characteristics remain consistent throughout felt lives. The resilience of this felt is particularly appreciated by those papermakers whose

Reference 1

Configuration: Optipress
Speed: 1,500 m/min
Width: 7.00 m
Paper grade: Fine paper
Position: Pick-up

Reference 2

Configuration: Tri-Nip with shoe press
Speed: 1,110 m/min
Width: 6.00 m
Paper grade: White topline
Position: Pick-up

Reference 3

Configuration: Duo-Centri 2
Nipcoflex + 4th press
Speed: 1,000 m/min
Width: 4.80 m
Paper grade: Speciality papers
Position: Pick-up



Franz Kiefer and Jochen Pirig (right), Strategic Product Managers at Heimbach, are not the only people convinced by Atrojet.

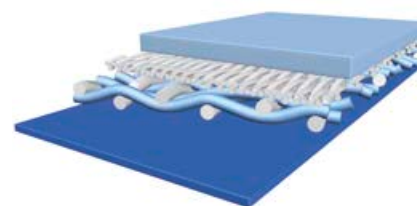
conditioning programmes require very high pressures. Atrojet is highly resistant to the impact of high pressure showers. A selection of various practical examples provides evidence of the success achieved so far (see below).

International popularity

Heimbach launched Atrojet in 2015. “We were already **confident in referring to a new era** when introducing the product, and this is more than ever true today”, states Kiefer, who was involved in the development of the product from the beginning: “Atrojet has developed into a “success driver” and is now being used worldwide”, he confirms. This is in no small part **because of its perfect fit** when dealing with the demands of board and packaging manufacturers. Kiefer observes: “Even though the use of the term “era” was bold at the time, it is true.”

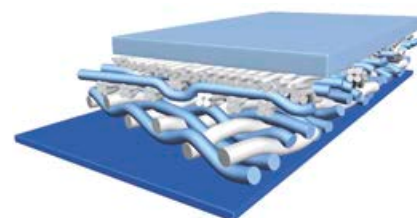
Driving Innovation

Atrojet for cartonboard and packaging paper complements an extensive product line which is certain to grow further, “because development happens more or less every day”, the product manager explains. This means that as far as research and development is concerned, time never stands still. The same is true for colleagues working in the field, because: **“The rising demand from the cartonboard and packaging sector must be served promptly”**, as Kiefer stresses. We are already looking forward to the next product from his “press felt assembly line”.



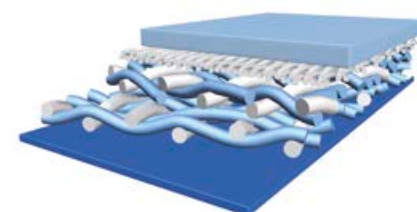
Paper side: Yarn system

Substructure: Single monofilaments in MD and CD
Open, light felt design



Paper side: Yarn system

Substructure: Twists and single monofilaments in MD, single monofilaments in CD
Universal felt design with high void volume



Paper side: Yarn system

Substructure: Single monofilaments in MD and CD
Open felt designs with very high void volume

Reference 4

Configuration: Sympress-1 with Symbolt
Speed: 950 m/min
Width: 5.00 m
Paper grade: Packaging paper
Position: Pick-up

Reference 5

Configuration: Sympress-2nd + 4th press
Speed: 1,300 m/min
Width: 8.70 m
Paper grade: Newsprint
Position: 4th press

Reference 6

Configuration: Tri-Nip + 4th press
Speed: 900 m/min
Width: 3.90 m
Paper grade: Copy paper
Position: 3rd press top

Clean from the start

Why forming section cleaning is so important

Dear Papermakers!

I recently got hold of a document that had been printed using a process known as "Letterpress", which, as you know, is a very old printing method. Deep embossing can certainly create beautiful results. Here both look and feel are combined. Only paper can make this possible! However, before you are able to sell a high-value end product a key factor would be the best and most efficient production possible. This is why we are today taking up one of your questions: How to reduce or even avoid sheet breaks. Quite often this involves the topic of "former hygiene".



Photo 1: Unfortunately not uncommon in forming sections ...

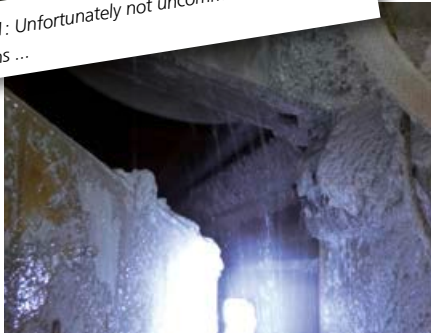


Photo 2: ... contamination and deposits.



Photo 3: Fine particles near the edges.

We use this term to describe cleanliness in the forming section – a very important area. My colleagues and I have devoted some time to examine several forming sections in great detail in order to illustrate opportunities for increased productivity. And this, of course, occurs **right at the beginning** of the process, since many key paper characteristics are already set in the forming section. Bearing this in mind, we **must take the utmost care with cleanliness** in this area.

Complex forming sections

Only recently I was on the road with my colleague Hamish Parsons (Strategic Product Manager Forming) in order to dive into a "wet end" once again. What we saw is illustrated in photos 1-3. You could almost say that it would not be possible to have more contamination. As is the case with virtually every machine, the forming section shown has a complex and intricate construction. Impurities can therefore build up **on numerous machine components**, principally caused by water and fibre carrying.

Cleanliness is everything

Deposits such as this are toxic for papermaking since, in addition to a reduction in product quality, runnability problems and sheet breaks are often the result. As **experience with customers** worldwide has shown, this is mainly due to inadequate cleaning of forming fabrics, rolls, and doctors. Of course, it must be said that contaminated edges or a suboptimal and unsuitable forming fabric design can also cause these problems. When producing paper which is changed by further processing into artistically accomplished brochures by advertising agencies, for example, **cleanliness is a top priority**. However, this can only be achieved if we take great care with former hygiene.

Happy customers

In the final count, the result of your daily successes is: paper of the highest quality, made in the most efficient way possible, and available at short notice! In total, quite simply **high customer satisfaction**, including hopefully one or other of your key customers serving advertising agencies. "Quality always wins out", as customers say, whilst, after all: **"Art requires skill"**. Indeed, mastering the art of papermaking is "only" half the battle as machine clothing has to do the rest in harmony with the machine.

More on
Primoselect under
www.heimbach.com

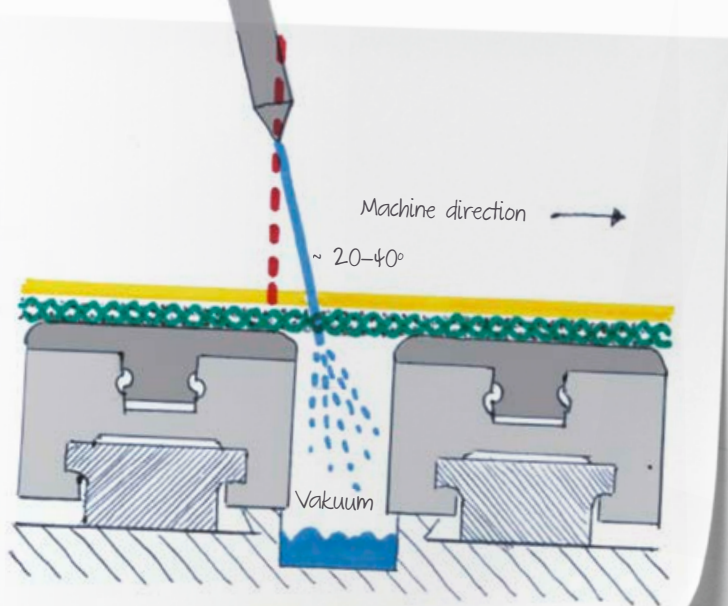


Fig. 1: Optimal water jet in machine direction.

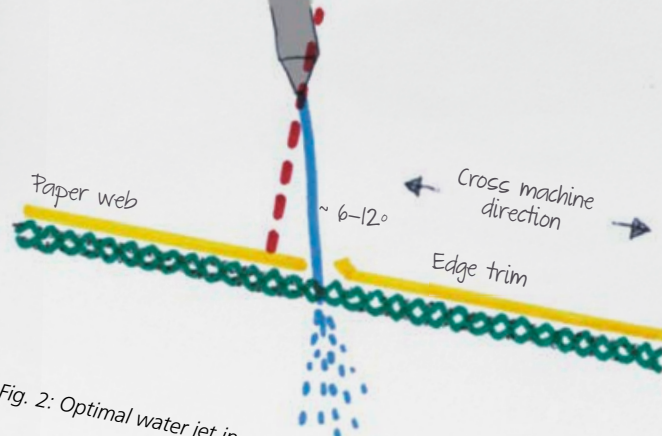


Fig. 2: Optimal water jet in cross machine direction.

Persuasive figures

It is not difficult to work out what happens when production has to be interrupted, as Hamish says: The loss of annual turnover is **more than 1.8 million Euros/year with just one single sheet break per day** (board machine: test liner, 100g/m², 7m wide, 1,000 m/min.). A considerable amount! Since we have seen time after time on our various assignments that **fibre or slime deposits can be the cause of breaks – especially in the forming section** – our belief is that these should never be ignored.

Conditioning a significant factor

Conditioning is also a critical factor. **If this does not meet the requirements of the process, the result will be poor.**

High water quality, the correct filtration units, precise water pressure and perfectly adjusted nozzles – this is the way to achieve optimal production in the forming

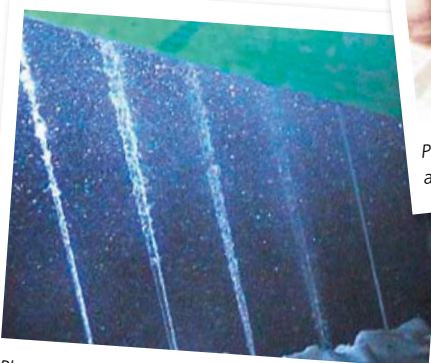


Photo 4: Defective nozzles lead to turbulent water jet.

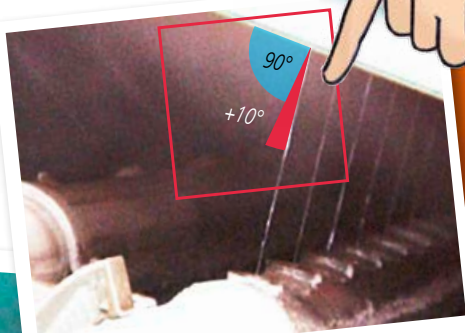


Photo 5: This is the right way – laminar water jet at an angle of 100°.

section! In photos 4 and 5 you can clearly see the difference between a turbulent jet (Photo 4) and the **correct laminar alternative**. When a water jet is turbulent the predominant cause is defective nozzles and they should be replaced – because efficient cleaning **can only be achieved with the correct jet!** In order for the laminar jet to be able to clean effectively, the nozzles should be adjusted with a 90-100° angle towards the fabric and should work at the right distance (Photo 5).

Result: perfect fabric conditioning – and the highest possible cleanliness.

Position of edge trim nozzles

Equally important is the positioning of the edge trim nozzles, where possible situated above the last slot of the high-vacuum suction zone. If edge trim nozzles are to work perfectly, key parameters are **correct size, appropriate diameter and flawless functionality**. Figures 1 and 2 make clear what's crucial: **Correct nozzle adjustment together with appropriate angles**, and the correct position of the "twin nozzle". Its tilt must be observed, the angle towards both machine and cross machine directions.



Fabric design makes a difference

The right choice of forming fabric also plays an important role in forming section hygiene. To this end Heimbach has developed the Primoselect design which is **being quickly adopted across all markets and grades**. It has numerous benefits, primarily due to its open structure (fig. 3). The much **lower density ensures optimal dewatering**, even when a reduced vacuum is applied, and the low void volume reduces water and fibre carrying (fig. 4). The result: A fabric that runs noticeably cleaner than conventional multi-layer forming fabrics (Photos 6-8).

is determined individually and by our customers themselves. Just as you like it, so to speak. The principle of Primoselect is clear in our slogan: You decide which benefit is your priority. **Together we will choose the best solution for you.** As always with the aim of producing the best paper – for this, too, really is an art!

Your Paper Pete



Fig. 3: Unique binding concept.

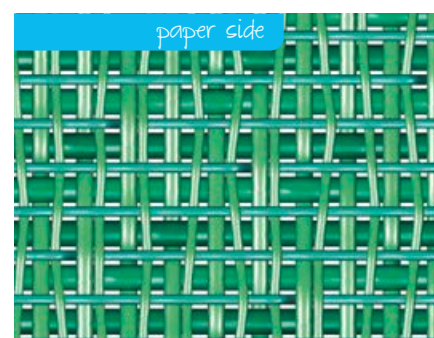


Fig. 4: Very low void volume.

Together we choose the best

Our colleague Hamish still retains fond memories of the times when Heimbach development engineers, together with application and machine experts, considered the question how, in the forming section, **we could offer our customers more and better solutions – and higher satisfaction**. The result: Primoselect, whose specific design



Photo 6: Primoselect (right) next to two conventional multi-layer forming fabrics – minimal fibre carry



Photo 7: Water carry with normal multi-layer forming fabric.



Photo 8: Negligible water carry with Primoselect.

Quality and Know-How in Focus

Your feedback on our performance

In our last impressive we referred to the first results of our customer satisfaction survey. As promised at that time, your answers have been examined in detail in order to identify potential areas for improvement and to initiate appropriate measures.

"Asking questions is one thing, dealing with the implications of the answers is quite another", says Stefan Merckens, Vice President Quality. Together with his team he has put together a list of improvements coming out of the feedback from our latest satisfaction survey, some of which are already being implemented.

Stronger teamwork

Your general satisfaction in terms of the **quality and performance of Heimbach products is developing in a positive way.** In spite of this, and as shown in detailed responses, in all sections you do not perceive us as quite such a strong partner as we would like to be.

We are continuously scrutinizing our product mix in all sections of the paper machine, as well as adding new products to the portfolio. A prime example from recent times would be our Primoselect forming fabric family which can be applied across all grades. "Despite this, current market conditions require, more than ever, that our colleagues in development, sales and application work together in **close co-operation with the customer. In all product segments** we plan to specifically reinforce and further **develop this exchange of knowledge and practical experience**", says Merckens. After all, perfect application

of a fabric depends to a large extent on knowledge of the relevant machine conditions and products.

Turning problems into opportunities

In our 2014 survey, the **issue of problem solving** was already considered to be **very important**. Such feedback has to be taken seriously and acted upon immediately in order to continuously improve products and services. High quality and focused technical advice, competent specialist knowledge, and modern equipment are undeniable and indispensable when dealing with problems and their prompt solutions. It is also clear, however, that the processes in the back-ground are also very important and have an enormous influence on your degree of satisfaction. Therefore we are delighted that the efforts of recent years have come to fruition: Your responses confirm a **distinctly positive trend in the area of 'problem solving'** (see fig.).

Of course, we will not slow down in our efforts and look forward with confidence to your next assessment in Autumn 2018.

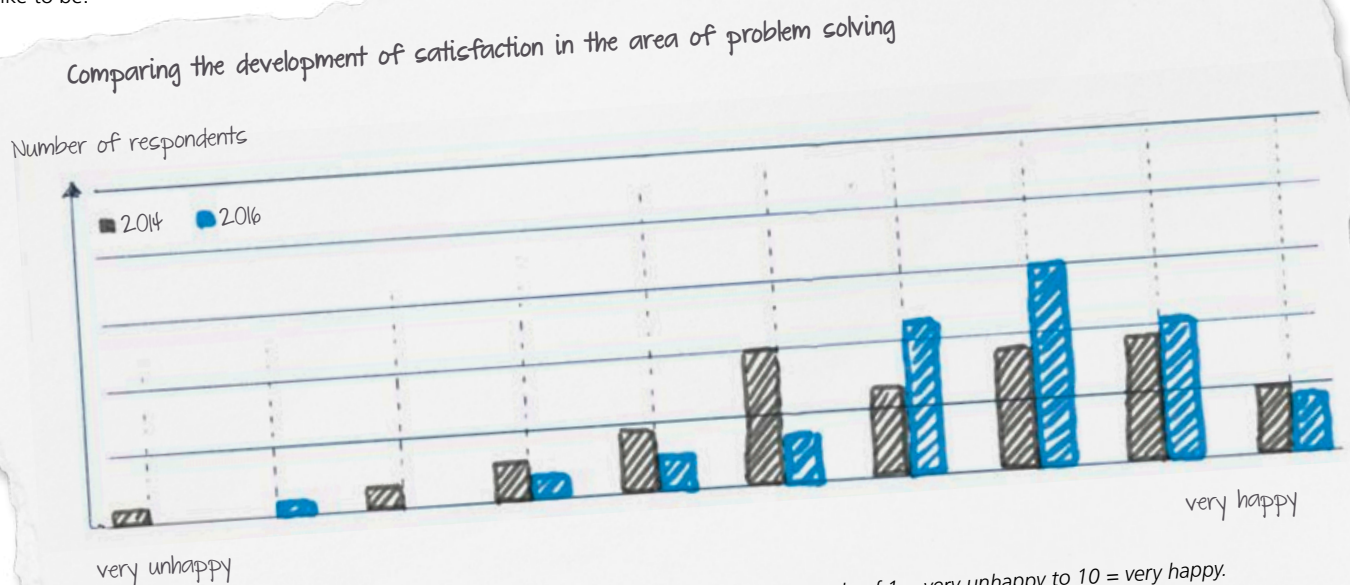


Fig. : Compared to the 2014 survey the trend is positive. Grading on a scale of 1 = very unhappy to 10 = very happy.

Fast – Faster – means Fast Forward

New component for optimum start-up



Dewatering in the press section requires high levels of energy consumption, as we all know. However, great savings can be made if the optimum dewatering process and the right press felts are used in combination. Heimbach has developed an innovative concept that enables quicker and more effective start-ups. We spoke with Franz Kiefer, Strategic Product Manager Pressing and Olli Kääpä, Vice President Products, about the start-up innovation with the “turbo effect”.

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What was the motivation for developing the new technology, Mr Kiefer?

Franz Kiefer

In reality we are continually striving for efficiency increases in all sections. Where the press section is concerned we mainly look at the **best possible reduction** that we can make considering the so-called “**money triangle**” as the felt starts up. An optimum start-up is one of the targets, the other is energy savings: Depending on paper grade 10-20% of the electricity consumed on the machine is due to the creation of a vacuum in various machinery components. 25% of this vacuum energy is normally needed for the UHLE boxes.

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In the past Heimbach has often reported on press felt concepts and the potential for energy savings. Mr Kääpä, what is the current state of development?

Olli Kääpä

Development continues all the time. We never run out of things to think about, as in our team we are permanently considering **ideas that can be developed further and lead to innovations**. One such example would be, how do we improve felt saturation and

dewatering behaviour? How do we increase product efficiency?

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It's always about the money triangle.

Olli Kääpä

Yes it is! This is in fact a term that is heard frequently but in an ideal world would not be employed at all. Achieving optimum dewatering – **from the first minute onwards** – from nip dewatering would be the perfect scenario, as this is in most cases the most efficient method of achieving the highest possible dryness after the press section.

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So a central point is that dryness after the press section is as high as possible, correct?

Franz Kiefer

That is the aim – in order for paper makers to benefit in several ways: On the one hand **breaks are reduced**, and on the other **runnability is significantly improved**. One single measure, lots of gains to be made.

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Back to the money triangle: Could you explain briefly its enormous significance, please?

Olli Kääpä

OK, let's take a basic arithmetic example: On a large, 10m wide paper machine producing wood-containing papers, approx. 85 tons are lost in production if the start-up speed has to be reduced by just 100 m/min. This shows **how important maximum dewatering is**. If we don't achieve it, reduced machine speeds have a negative cost effect.

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Can you put a figure on it in Euros?

Olli Kääpä

With a price per ton of 500 Euros you lose approx. 42,500 Euros turnover every single day that your felt does not reach full speed – this amounts to a loss of **more than half a million Euros per year** (if we factor in 1 felt change/month)!

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Extraordinary figures! How do you prevent these losses?

Franz Kiefer

With our latest development “ff”!

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Does that have a ring of “fortissimo” about it?

Franz Kiefer

If you like music, you can say that “ff” is loud and strong! But joking aside: **“ff” is short for “fast forward”** and is the name for a new component in Heimbach's portfolio that increases start-up efficiency. From now on “fast forward” will allow our customers to **delete the term “money triangle” almost**



O Kääpä and F Kiefer(right) on the advantages of „fast forward“.

“Fast forward” is available for almost all Heimbach press felts – including Connect felts, of course.

atrocross.ff
atrojet.ff
atrolink.ff
atromaxx.ff
...
CONNECT

completely from their vocabulary. And this is no exaggeration.

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Can you explain this a bit more?

Olli Kääpä

The best way I can explain is to go back more than 2,200 years ago, when Archimedes established the principle that was named after him. The **fundamental understanding** that he left to posterity tells us that when we get into a bathtub filled with water, the amount of water that we displace is equal to our body volume. Transferring this physical law to the operation of a press felt we could quickly establish that **the felt has to be completely saturated** – as quickly as possible!

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Fastest possible water absorption = best possible dewatering.

Franz Kiefer

Exactly. We have developed a module that consists of a **specialty developed high-tech material**. From now on “ff” is the abbreviation that everybody who insists on “turbo start-ups” needs to know.

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And how do you assess the degree of saturation achieved?

Franz Kiefer

Very positively: In tests we achieved complete saturation within an extremely short time. And of course, **the felt still remains open-pored** and does not become dense. The combination of these two characteristics ensures best performance over the entire life of the felt.

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Is “fast forward” suitable for any machine configuration?

Franz Kiefer

Our special component can be used on **almost all machine types**. Moreover, all Heimbach base fabrics are compatible: This means that

paper makers can achieve the **best start-ups** – no matter which base material is their first choice for the relevant machine or position.

Olli Kääpä

And we should certainly not forget: Conventional felt designs without special start-up support need two to five days before they can be run at full machine speed – **with “fast forward” we are talking about a few hours!**

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That is a convincing overall concept! And presumably the environment benefits as well?

Olli Kääpä

That is true as well as important; especially since Heimbach is committed to environmental protection as befitting a socially responsible company. With “ff” we deliver considerably **higher production efficiency** to our customers. Or we could put it the other way round: Saved energy does not need to be produced. This is how sustainability works ...

Franz Kiefer

... with “fast forward”, since besides maximum efficiency in the nip dewatering process significant savings are made because **UHLE boxes can be switched off** when using “ff”!

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“Bye-bye cost triangle”, so to speak.

Olli Kääpä

Absolutely – There are enormous savings opportunities that our customers can exploit quickly and easily. Be it nip dewatering, more production volume or energy savings. In the case of a large paper machine we are talking about **well over one million Euros per year in total!** And from now on “ff” is an important part of this.

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Many thanks for the interview!

Very Important Focus on Apprenticeships at Heimbach

Heimbach Group employs 1,350 people worldwide. Of these, approximately 600 work at the head office in Düren, where at present 33 trainees are engaged in their vocational training, following courses that combine theoretical and practical learning. The courses are either at further education level, supported by vocational colleges, or at higher education level, supported by universities. These apprenticeships are long established in Germany and lead to certified qualifications. The training of our apprentices, which has either a trade and technical or a business basis, helps to secure the future sustainability of the company. In the following article we explain what we do in order to recruit competent, loyal and qualified staff for the future.

Training always features at the start of a working life. This focuses on the acquisition of specialist knowledge and the development of skills in order to create a solid basis for a successful career. **Businesses must offer attractive training conditions** to be able to succeed in the competition for the best young minds – today more than ever.

Managing demographic changes

Over time, changes in society have led to greater challenges for human resource specialists: Globalisation is a fact, digitalisation keeps moving forward relentlessly, birth rates have been falling for decades. In this context **vocational training is of the utmost importance** as it meets the future demand for specialist skills and secures valuable know-how that would otherwise disappear as older employees retire.

No lack of applicants

Over several decades now, Heimbach has established a reputation and become popular as a company that provides valuable vocational training: **“We manage to sustain good or very good numbers of applicants”**, René Anscheid, responsible for apprenticeships at Heimbach, states. For example, for each business apprenticeship there are around 50 applications. **“There is no need for us to fear a comparison with other companies that provide apprenticeships”**, adds Astrid Ritz, who looks after technical apprenticeships.

Responsibility borne out of tradition

In the course of the company's long history a number of economic crises have had to be negotiated but, **even through the difficult times, Heimbach has not shied away from its' social responsibility** and has always offered a vocational perspective to young people: “Since the beginning apprenticeships have been enormously significant to us”, says Anscheid. **This statement refers not only to recruitment but even more to the quality of the training** that Heimbach provides. Very early on in an apprenticeship our trainees are involved in real projects, which means that from the beginning a feel for customer focus and internal processes is developed.

Recruiting future professionals

In order for school and college graduates to make an informed decision when joining Heimbach, we use both classic and modern media as well as “brand ambassadors” who assist in making the company come alive. “In addition to print and online advertising and university publicity for training programmes, we ensure that **our employees – including trainees – are also involved in the communication process**”, Ritz states. To this end Heimbach has participated in local apprenticeship fairs and in regional initiatives for one-day vocational exploration for many years. Starting in 2017 **Heimbach trainees are out and about as “brand ambassadors” in schools**, presenting the company and its diverse vocational opportunities.



These young people began their apprenticeship in the summer of 2016. We are keeping our fingers crossed for a successful conclusion to their time with us.

First “trainee video”

We recently added a “trainee video” into the mix, in which our **trainees report on their everyday experiences**. They focus not only on “hard facts” such as working hours, time off for exams or professional development opportunities, but also talk about “soft factors” such as collegiality, work-life balance or the atmosphere at work: “Our trainee video is tailored to “digital natives”, Ritz explains. The aim is to convey an image of Heimbach that is as authentic as possible by means of the most up-to-date methods. We think we have successfully combined the traditional with the modern.

Reciprocity is key

The basis of Heimbach’s apprenticeships is reciprocity: **We invest a lot in our future employees, but we also get a lot back** – not only in terms of their daily performance, but also when they are asked to represent the company. To this end, and already in their first year of training, **our trainees take on responsibility** by giving school groups guided tours of the company. They are also available as contacts at “open days”, talking to interested people about the support they receive from Heimbach during their training.

Additional support leads to success

Potential apprentices are also made aware of **job interview training**, which is offered in schools on a regular basis, and which provides useful practice for them when it comes to the actual interview process. Details about internal tuition that accompanies apprenticeships at Heimbach, which is specifically targeted towards **deepening our trainees’ knowledge in preparation for theoretical and practical exams**, are also discussed. This internal tuition is an established part of our job training and leads to success as demonstrated in the high grades achieved by Heimbach trainees in exams.

Distinction on a national level

A current example of this is **Sophie Volpert**, a 25-year-old colleague, who recently graduated with distinction from her training programme as Product Inspector Textiles.



Sophie Volpert (Heimbach) and Eric Schweitzer (President DIHK) at the prize-giving in Berlin.

During a recent ceremony in Berlin the textile expert **received a special award** as one of the top 219 trainees in the whole of Germany. What a remarkable achievement this is, if you consider that she was competing against 300,000 examinees! With this success Volpert is maintaining a **long tradition** at Heimbach, as 21 trainees before her have achieved similar recognition for their performances. As part of her training she is now planning to follow this achievement with a two-year full-time university course in “Textile Technologies”.

A variety of professional development opportunities

Trainees at Heimbach are able to choose from a variety of additional options. There are combined **university courses as well as further in-house training**: Those interested in trade and technical development can continue their education to achieve a qualification in textile technologies or as industrial supervisors in textiles. A variety of combined Bachelor courses are also available. For those who are interested specifically in paper, technically oriented **university degrees in paper technology** have proved to be particularly relevant. For those interested in business, combined degree

courses with a business focus are offered.

Those who have completed their apprenticeships in business can follow alternative studies towards an MBA. “This is an opportunity that is frequently taken up”, Anscheit says, “particularly since it can be done in tandem with job training”.

From internship to higher management

There are so many opportunities for professional development at Heimbach – including opportunities for beginners. It may sound ambitious to outline a **career from intern to senior manager** – but it is possible! “Many former apprentices are still working for us in a variety of positions and at all levels”, Ritz proudly says, adding: “Yes, our long-term concept works.” Altogether there are **40 places available for work experience** each year, ranging from short internships to specialist long-term ones. It is still possible to work for one and the same company throughout your life: “That is what we stand for”, says Anscheit.



Photo 2: Laetitia and Pierre, surrounded by sand, in the middle of nowhere.



Photo 3: The green replacement vehicle with Heimbach logo.



Crossing the desert for children

French students on the road with an educational mission

No doubt about it! The Renault 4L is a famous cult vehicle. In production between 1962 and 1992, this car remains popular even today and is still enjoyed by many. However, the 4L is much more than just a trip down memory lane for aficionados, being also an extremely tough and durable make of vehicle, able to withstand a fair bit of punishment. It is not surprising, therefore, that an annual rally is held in its honour, which is an astonishing 6,000 km long. Among the participants this year: A team supported by Heimbach.



Photo 1: Impressive overview in Biarritz.

The “Renault 4L Trophy” is the prize at stake during this desert rally, which in 2017 took competitors from Biarritz/France to Marrakesh in the west of Morocco. It goes without saying that **only the eponymous 4L vehicles are allowed to take part.**

A brand – a rally

This year's rally was the 20th since its inception and **more than 1,450 teams had applied to take part** (Photo 1). All the participants were French students, for whom this challenging race is exclusively organised. **Competitors were on the road from 15 to 25th February.** Starting on the French Atlantic coast they drove across Spain before being ferried over to Morocco with the aim of conquering its desert. This was a dry and dusty affair covering several arduous stages which were extremely demanding for both vehicles and people.



Trainee papermakers reach starting line

Laetitia and Pierre, students at the French college of papermaking in Grenoble, formed one of the challenger teams (Photo 2). Even before the race started the two competitors had to overcome a huge obstacle when, before they reached the point of departure,



Photo 5: During a break for the desert caravan.



Photo 4: Laetitia and Pierre, painting their 4L – this was before Toulouse ...

the engine of their 4L broke down near Toulouse. A replacement had to be found quickly in order for them to get to the starting point in time. It's a good thing that **friendship and readiness to help are considered so important among 4L drivers**: This meant that the two paper experts could count on the support of others and were able to acquire a replacement vehicle which served them well on their journey (Photo 3).

Driving for a good cause

Of course this trip is not just for pleasure, because the venture predominantly serves a good cause: So, when applying to take part, all teams must pledge to carry at least 50 kg of educational material for school children per person. No sooner said than done! With 2,900 drivers, this means providing **145,000 kg of learning matter for children in southern Morocco**. Ensuring that

the books are received, this operation is organised professionally by the charity "Les enfants du désert" ("desert children"). But not only that: In addition to the "educational cargo" **companies can also sponsor teams with donations of money or in kind**. This is what Heimbach did.

Colourful 4Ls

In total the rally teams "earned" ca. **72,000 Euros**, which is a **remarkable achievement!** It seems very clear that the 4L Trophy really does put the Olympian ideal – of not winning but taking part – into practice. That is not to say, of course, everybody does not want to succeed; after all, **the young people have invested a lot of time, money and effort in this adventure**. This commitment is required not only during, but also before the event, as race rules stipulate that each team must paint and decorate their 4L individually before the start (Photo 4).

Furious finale

A truly rare sight, when colourful, contrastingly decorated vehicles snake through the barren desert landscape (Photo 5), before receiving, at long last, a **warm welcome at the finishing line**, where an equally colourful party was laid on by local residents which meant the 4L trophy ended with shows, music and dancing.

A sustainable future in vegetable cultivation

Mulching paper replaces harmful plastic film

In agriculture plastic films are regularly used in fruit, vegetable and berry cultivation. For a long time this film has been indispensable for farmers, but an alternative has now become available! This is certainly a positive development for both the environment and our sector, since paper is well on the way to displacing plastic as mulch. In the following report you can read more about this innovative product and its significance for the future.

From 2010-2014 a group of Finnish experts researched the idea of developing mulch from paper, which could then be used as an **ecologically sound replacement for conventional plastics** throughout the world. In agricultural practice mulch is used to improve the quantity and quality of yields and to reduce the use of pesticides and fertilisers, as well as to limit the need for irrigation.

Plastics: an ecological problem

Plastic mulch films made from polyethylene may be cheap, but they are not biodegradable. Therein lies the main problem that farmers have with this standard solution: Its residues must be **painstakingly removed from the soil at the end of each growing season**. In practical terms the outcome of this process is not 100% achievable and is in addition quite expensive. The plastics that remain in

the soil pollute the environment and this inevitably affects the food that is grown.

At the beginning of the decade this state of affairs led scientists from Helsinki University to initiate **Project "AGRIPAP"** in collaboration with other research institutes.

AGRIPAP – an all-round solution

The name stands for mulching paper that in the future will replace plastics in agriculture. Obviously, AGRIPAP should not only be biodegradable but also offer the same benefits as plastics, in particular **low cost and high processing stability**. Under the leadership of Jukka Ahokas, Professor of Agro-technology, a working group was formed that also included some manufacturing companies. These provided the finance for the project and supplied specially treated experimental mulching paper, chemicals and equipment.

High demand for papermaking know-how

There are multiple challenges for the production of mulching paper: The aim is to produce thin paper that at the same time must be mechanically stable, and that can be machine-laid in large-scale agriculture, in the same way as plastic film – **of course without ripping and preferably within the same time frame**. The mulch must furthermore





be able to withstand rain and wind. This is particularly important for the edges, as updraughts can lift the mulch from the ground. Moreover the paper must be optically opaque in order to prevent the growth of weeds. Since the mulch is used **throughout the growing season**, its decomposition performance must be studied in great detail. Only long-lived and slowly decomposing paper can become mulch.

Taking account of global climate variations

Clearly, climatic conditions vary greatly across the different regions of the world. Field trials were conducted in Finland, Spain, Turkey, and Swaziland, with the aim of taking these variations into account. Over this trial period, the team found that **ordinary kraft paper made from soft wood** lends itself very well to being used as mulch. This type of paper is highly resistant to tearing and is very hardwearing; which means it can be easily laid using conventional machinery. Equally important, this paper is wind and rain resistant.

Enormous demand

Consideration must nevertheless be given to the fact that on warm and humid farmland kraft paper decomposes quite quickly, within three to four weeks. This has to be the starting point for further research with the aim of achieving a longer lifespan. It is undoubtedly very challenging to produce paper that is mechanically strong and that decomposes slowly! But it's worth it: In order to satisfy the worldwide demand per year, approx. **5-6 million tons of mulching paper** would be needed. These figures show how much of a sales opportunity this can be for our industry – **in this completely new market** for fibre-based soil mulching.



"A successful event
all round"

Packaging Experts United International Heimbach Seminar

Encouraged by the positive response to our 2012 packaging seminar and the favourable feedback to a series of "Dryer Club" seminars, Heimbach recently issued invitations to an international packaging seminar in Cologne which took place at the end of May. The two-day event tackled current industry topics around cartonboard and packaging papers – from headbox to reel and beyond.

A rich and varied programme

Besides the exchange of professional views amongst colleagues and industry specialists, delegates from all over Europe experienced a varied offering of presentations. One of them, the "Papiertechnische Stiftung" (Foundation for Paper Technology) dealt with the **subject of sourcing and recycling of waste paper and the challenges a reduction in waste paper quality presents to the production process.**

From the perspective of the converting industry a guest speaker outlined the **challenges confronting manufacturers of packaging and display products made from corrugated board**, today and in the future. The delegates made a foray into the area of

"Design and Architecture" during a presentation by an architect who presented the many **different possibilities and opportunities offered by "corrugated cardboards"** and the potential demand for such materials in the furniture industry.

Topics along the production chain

The presentations by Heimbach personnel dealt with solutions to specific issues, section by section, in the production of packaging papers. In the forming section, for example, the focus was on the **impact of waste paper quality on former hygiene** and de-watering efficiency in the forming section.

The press section contribution focussed on how to **maintain optimum performance**

throughout the life cycle of the felt. A separate presentation addressed shoe press belts and how to optimize their performance.

In the dryer section the principal discussion topic **concerned the consequences of ever-decreasing raw material quality** and how this can be counteracted through the application **of innovative dryer fabrics.**

The presentations were complemented by clear **practical examples of problem solving** in the forming, press and dryer sections, accompanied by **realistic demonstrations given by Heimbach TASK experts** (e.g. measurement of jet/wire ratio or electronic nip-pressure profiling).

Tell Us What You Would Like to Read!

Your impressive – Your topics

As editors of impressive we always set ourselves the target of entertaining our readers through stimulating content. We provide up-to-date information from the world of Heimbach and also from our industry sector. You can read case studies and follow success stories, get to know customers and on-going projects. Paper Pete, who reports regularly on best practice from practical experience, also makes his contribution. In this issue we would like to scrutinise ourselves and ask your opinion: Are we covering the right topics? What content should we comment on more? In short: What would you like to read about?

Are you missing a particular column? Have you ever thought: Something else would interest me more? In this case we would like to invite you to share your wishes with us. This is, dear paper makers, because each impressive needs to be balanced and should contain material that is of interest to you. Take the opportunity and help shape your magazine! We eagerly await your suggestions.

Your Opinion Matters

Below you will find space for your com-

ments. We welcome every idea. As a small token we will have a prize draw of ten practical sports bags open to all contributors who reply by 31 August. Please don't forget to leave your address. If you wish to scan and **email** your comments, please send to **heimbach-paper@heimbach.com** (Subject line: Idea for impressive).

Many thanks for your feedback!

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