



# impressive

ISSUE 1/2024

## Focus on our customers

Understanding and quickly solving problems,  
all requests recorded and actioned

## Improving efficiency in the dryer section

Section audit part 2

## Added value that pays off

Uncover potential savings with  
our new calculation tool



03

**The key role of palm setting**

Whitepaper for download

04

**Successful machine conversion**

Talking with Norske Skog

06

**High supply reliability**

New production line for forming fabrics at Heimbach Iberica

07

**More efficiency in the dryer section**

Press Section Audit Part 2

14

**Unusual concept for the press section**

Interview with Smurfit Kappa Verzuolo

16

**NewTech continues to gain ground**

New weaving machine for multiaxial felts

17

**Ever greater service expertise**

Quick answers to your questions

18

**New calculation tool**

Identifying potential savings

20

**A sunny outlook**

Expansion of green energy at Heimbach

22

**In profile**

Four „Heimbachers“ introduce themselves

**Imprint**



**Publisher**  
Heimbach GmbH  
52348 Düren, Germany  
Phone: +49 (0) 2421 / 802 0  
email: info@heimbach.com  
www.heimbach.com



Dear readers,

*Times are anything but easy - we have been skidding from one crisis to the next for years. Crisis also means change. Shouldn't it slowly be enough with all the changes and the transformation? For the paper industry, adapting and rethinking have always been a critical part of day-to-day business. If we can see change as an opportunity, new possibilities open up and we can realise our full potential. And what better way to do this than in a well-established partnership! We see ourselves as a reliable partner at your side. As a team, we are there to support you in getting the best out of your production. This naturally includes a combination of our high-performance clothing, comprehensive service and troubleshooting.*

*As we go forward, our main focus will be centred even more on delivering real contributions and added value for you. Your goals and projects are at the top of our agenda - our exchanges are lively and focussed, we bring new ideas into play and explore new avenues. Many conversations that we have had with you over time confirm that you value this cooperation. In this issue we mainly feature people and machines. Among other things, we take a close look at the dryer section, report on further developments in service and present our new tool, which we can use to help maximise the profitability of your processes. It's all about the aforementioned added value! And because nobody is better placed to explain how our solutions are used in practice than our customers themselves, some of them have their say here.*

*Heimbach is now part of the Albany Group, and in the course of the change of shareholders, the management has also changed. However, nothing will change for you, because as part of the declared two-brand strategy, you will continue to be looked after by your Heimbach contact person. They will continue to exclusively offer you familiar Heimbach products. Products that are generally produced close to their place of use - local for local.*

*I wish you an interesting read.*

*Michael Dick*

Michael Dick  
Vice President Sales EMEA & LA

# Precise guiding for first class results. The key role of palm setting in the dryer section.

When the paper web enters the dryer section many of the key decisions regarding paper quality and process efficiency have already been made. But, as the saying goes: the final reckoning comes at the end, and so the last section on the paper machine also makes a decisive contribution to overall success. And this is dependent on a variety of influencing factors, the causes of which are not always obvious or easy to eliminate. The basic rule is that the dryer fabrics should run smoothly and in a stable condition - without oscillation, undulations or even creases.

Here, the guide palms play an important role. Correctly positioned and correctly adjusted, they work together with guide rolls to ensure that the dryer fabrics run „straight“ and that the production process runs smoothly. Damage to the fabric due to running of track or increased abrasion at the edges is avoided and fabric life is increased.

In our new white paper, we focus primarily on the pneumatic guiding system, give recommendations on the positioning of the guide rolls and palms and explain the effects that can be caused, for example, by excessive setting pressure.

*The basic rule is that the dryer fabrics should run smoothly and in a stable condition - without oscillation, undulations or even creases.*



Download your White Paper here!



We look forward to receiving your feedback!

# Managing a successful rebuild based on trust and expertise

Online retail has been stagnating recently. In spite of this, consumer acceptance of sustainable packaging solutions remains high. Increasing quantities of goods are being packed in paper, cardboard and paperboard. The EU Parliament has also recognized the ecological advantages of this and clarified its position with a recently published packaging regulation (PPWR - see info box). Norske Skog has long since plotted a course for the future and converted its PM3 in Bruck, Austria, from newsprint to corrugated base paper. In future, 210,000 tons of containerboard will be produced there annually under the STRATO brand name. Heimbach has built up many years of know-how and extensive experience in machine rebuilds and was also a partner in this mega project. We met two of the main people involved at Norske Skog Bruck for a short interview: Andreas Spielberger, Manager Operations Pulp & Paper, and Franz Binder, Assistant Line 3 Containerboard Pulp & Paper.



From left, Christoph Klein (Heimbach), Franz Binder (Norske Skog)

## Mr. Spielberger, Norske Skog has a long history in Bruck. What role does STRATO play in this?

After the construction of the LWC paper machine here in 1989, this was the largest investment at the site. The conversion did not only include a new OCC system for processing the waste paper required for production of containerboard. A new winder, as well as electrical, automation and auxiliary systems were also installed.

## In future, your company will be playing in the premier league of European corrugated base paper manufacturers. Can you tell us something about the total capacity?

In the Bruck mill, we have completed the first of two conversion projects within the Norske

Skog paper group. We are currently also converting PM1 at our site in Golbey, France. This will give us a combined annual production capacity of almost 800,000 tons of recovered paper-based corrugated base paper.

## How do you see the market developing in the future?

We expect growth in the medium to long term. Consumers and producers are increasingly focusing on avoiding plastic - not least driven by the new packaging regulations.

## Sustainability has long been a topic at Norske Skog. What is your policy on the use of waste paper?

Sustainability is firmly anchored in our DNA. The recycling and use of waste paper has

been a tradition at Norske Skog for decades and is common practice. We are now applying this experience to the production of testliner and fluting. Here, too, we use 100% recovered paper.

## Mr. Binder, what do you expect from your PMC suppliers?

It is of central importance that our clothing is customised, i.e. perfectly matched to our production process and the machine. We also expect our suppliers to regularly monitor the performance of their fabrics and felts. After all, further developments and optimisations can often be derived from measurements and laboratory data.

## Heimbach has been supplying press felts for the old PM3 for more than a decade. Was the continuation of this co-operation clear from the outset? Or did you have to do some convincing internally?

With a mammoth project such as STRATO, the intensive backing and close-knit support provided by technical service personnel from our long-standing suppliers is immensely valuable to us. Naturally, they have extensive expertise with regard to the components in our existing plant. From the wire through to the press and dryer section, many of these components from the previous newsprint machine were used. So there was never any question that Heimbach would support us as a strong partner right from the start.



## What were your biggest concerns about a rebuild project of this size?

Clearly the issue of time management. We wanted to keep downtime to a minimum. The cooperation between all project partners had to function smoothly. Here too, Heimbach did not disappoint and provided us with great support both through technical advice and routine attendance at installation of our clothing. Experience is everything.

## In the press section Norske Skog consistently relies on Atromaxx.Connect from Heimbach. Can you tell us why?

With pleasure. In the pick-up position and 2nd press, this technology exhibits very good start-up behavior together with stable dewatering performance over the entire target running time. In addition, initial felt analyses indicate that increased felt life should be possible as we continue with further design optimization.

## Mr. Spielberger and Mr. Binder, we thank you for this fascinating look over your shoulders and wish Norske Skog every success with the rebuilt PM3 and the future rebuild of PM1.



Satisfied faces after successful start-up at the beginning of April 2023

# Reliability requires continuous investment

With two new weaving machines in Düren and Burgos we are making a significant expansion in our capacity, enabling us to provide higher security of supply and continued reliable quality for our customers. This illustrates our commitment to Europe and serves as an example of our proximity to our customers.

## Local production and stability of deliveries - you can count on it

Corona, Ukraine, conflict in the Red Sea: these are just some of the crises in recent years that have served to show just how easily our global supply network can be torn apart. Disrupted supply chains and supply bottlenecks will undoubtedly continue to concern us in the future too.

In order to minimise the risk of such failures, the Heimbach Group has long been set up so that we manufacture the Forming, Pressing and Drying product lines globally and in parallel from at least two locations. We manufacture as close to the customer as possible, which means maximum flexibility.

## Increased quantities of Primobond.F and Primoselect.F made in Spain

We have been manufacturing paper machine clothing at our Burgos site for more than 50 years. Heimbach Iberica is not only a centre of excellence for dryer fabrics, but also a major supplier of forming fabrics. In order to meet ever-increasing demand for our Primobond and Primoselect product lines, the company recently invested in a new weaving machine. This ultra-modern loom is a high-speed TEXO type FSX. It is 14.5 metres wide and can produce at 100 picks per minute.

Production is monitored using Big Data and the loom is equipped with FASTEC data analysis software. This enables us to constantly optimise production, quality and maintenance strategy.

## Equipped to fulfil customer requirements

Thanks to this investment, we are ideally equipped to deal with order peaks and are able to respond quicker than ever to market requirements. True to the motto 'no limits', we can equip the world's largest and widest paper machines with the finest fabric designs. Added to this is our production and logistical flexibility - forming fabrics are manufactured at various locations within Europe. By combining weaving and seaming machines with high-end heat-setting facilities, we are also able to guarantee a high level of reproducibility.

P.S. You can read about the new equipment at Heimbach Düren for multiaxial felt production on page 16.



High-tech at the highest level: The new weaving machine for forming fabrics at Heimbach Iberica

# Section audit in the dryer section Part 2

In the previous issue we looked at components, processes and clothing in the dryer section. In this second part, we will present and introduce our analysis and diagnostic methods and explain how you can optimise efficiency in the dryer section.

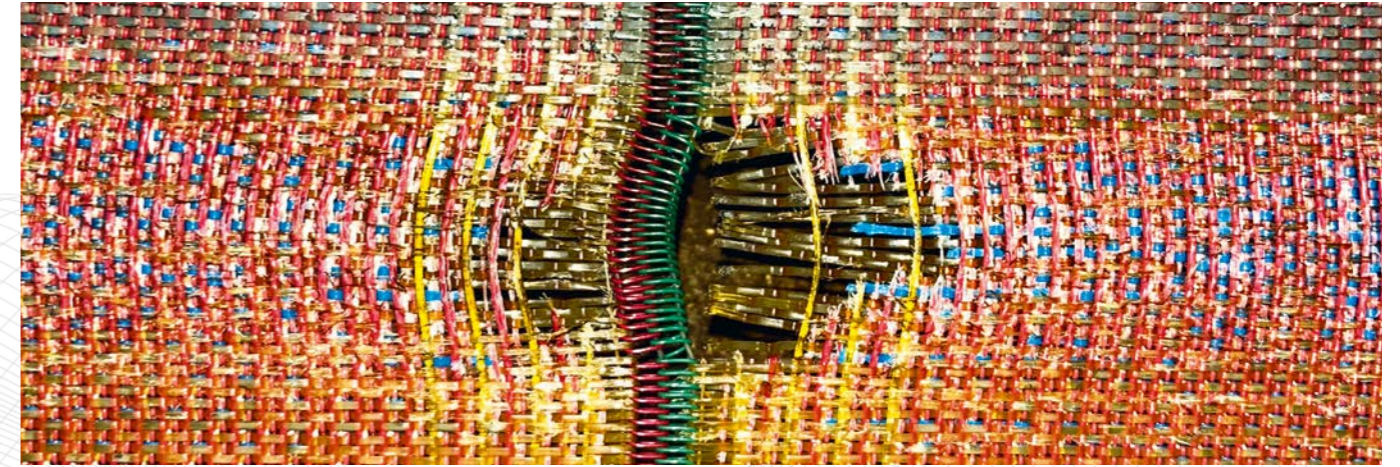


Fig. 1: Damage in the seam area

## 1. Inspections and measurements in the dryer section

### 1.1. Fabric inspections

Fabric inspections are carried out, among other things, to recognise changes in the condition of the fabric at an early stage. Mechanical damage, wear, hydrolysis, air permeability cross profiles, contamination, seam damage (Fig. 1) and seam distortion are documented accordingly. The latter is closely linked to the function of the fabric guide and tension controls, which we

describe in detail in our new white paper (see page 3).

For the most part, polyester dryer fabrics are used. Too much water vapour and too high temperatures can lead to premature hydrolysis (Fig. 2). Although dryer fabrics still appear to be intact on the outside when hydrolysis begins, the risk of damage to the cloth is nevertheless increased. For this reason, fabrics should be checked regularly and timely replacement intervals should be planned.

This is especially the case when switching the heating strategy to shock drying, whereby it is important to determine the maximum possible service life of polyester fabrics by means of regular fabric checks.

The right-hand photo in Fig. 2 shows that in addition to the machine direction yarns (warps), the cross direction yarns (wefts) are also hydrolysed. Hydrolysis generally begins at the edges of the fabric.



Fig. 2: Hydrolysis in various stages

## 1.2. Laboratory analyses of used dryer fabrics

A look inside always provides information. For example, the history of several laboratory tests can often reveal the potential for extending service life. A sample is analysed across the entire width in the seam area. Various, highly detailed, tests are carried out to assess the condition of the dryer fabric. These include a cross machine air permeability profile, tensile strength in the area of the seam (Fig. 3), remaining fabric caliper and wear. Improvement measures can be planned on the basis of the findings.

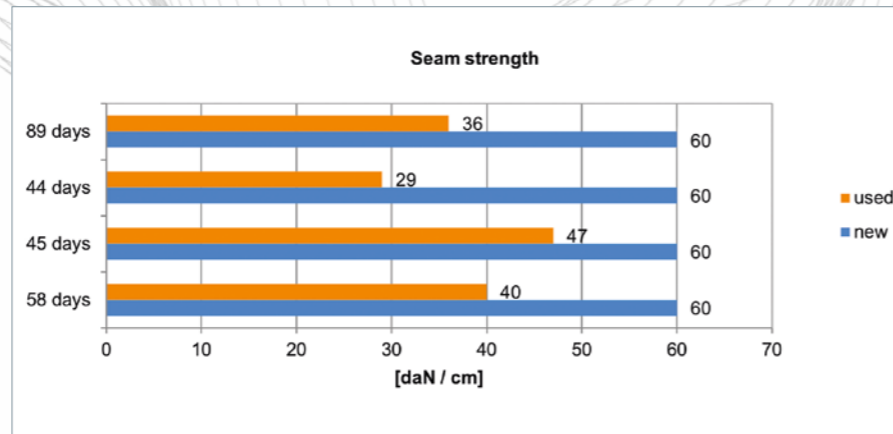


Fig. 3: Diagram showing history of seam strength

## 1.3. Mechanical maintenance

### Changing the doctor

The doctor should be replaced regularly due to wear and tear, bitumen deposits and also depending on paper grade. If deposits appear on the cylinders, contact pressure with the old doctor blade should not be increased under any circumstances. If this were the case, the blade would bend slightly so that the angle of the worn edge no longer matches the contact angle on the cylinder. As a result, the doctor would let even more dirt through. If this happens, the contact pressure should be slightly reduced (Fig. 4). The optimum angle on the drying cylinder is 25° - 30°.

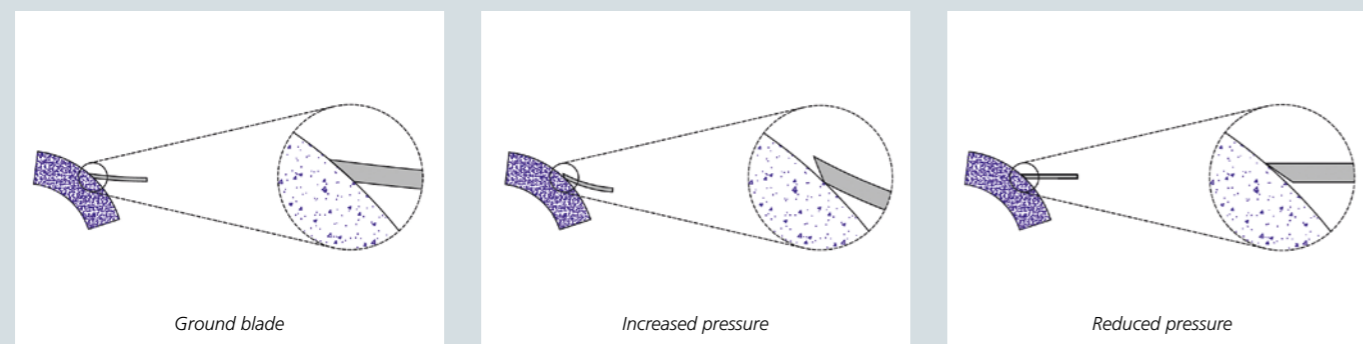


Fig. 4: Negative effect of pressure increase

## 1.4. Analysis and diagnostics

### Measuring temperature

We use TASK measurement technology to analyse the dryer section and identify any potential for optimisation to increase efficiency. In the course of this analysis (Fig. 5 + 6), we use a temperature measurement programme to determine the respective values of the paper web, cylinders, dryer fabrics and humidity. After the evaluation, we have a precise overview of the function of the dryer cylinders and the air condition in the cylinder pockets. Malfunctions, bottlenecks or condensation risks can thus be identified.

Once the temperatures, humidity levels and volume flows of all supply and exhaust air ducts have been measured, a hood balance is established (Fig. 7).

This clearly shows where the air flow can still be optimised. The measures derived from this can pay off in increased production output, reduced energy consumption or improved paper quality.



Fig. 5: Temperature measurement in the dryer hood

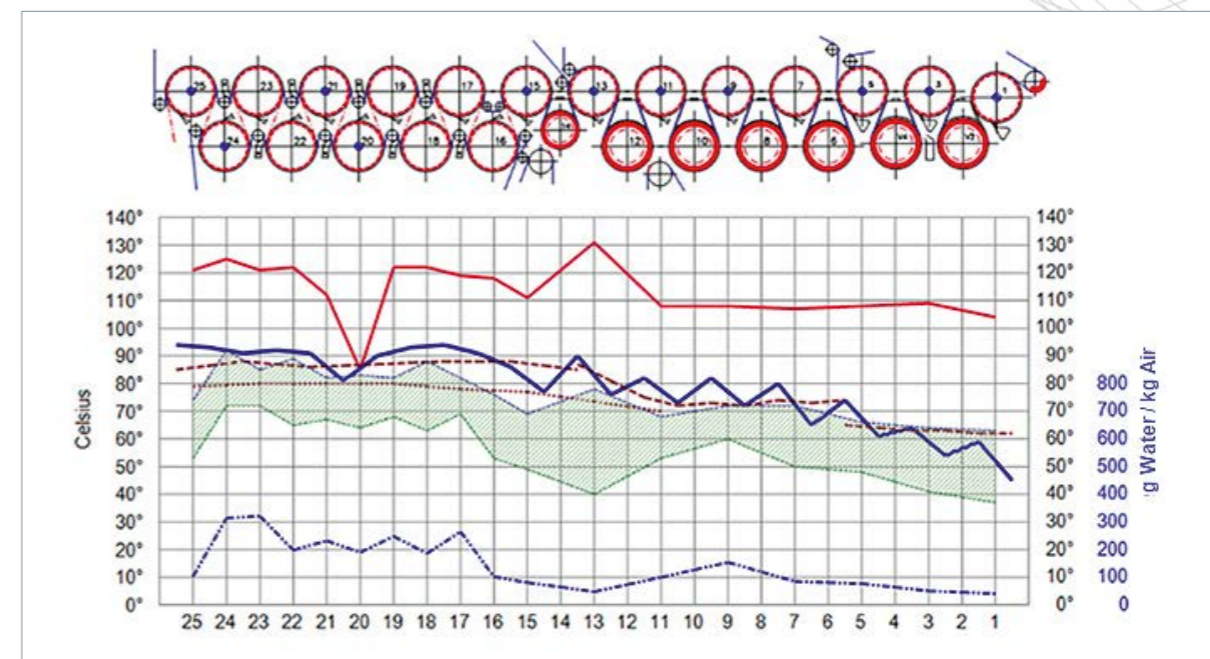


Fig. 6: Temperature diagram

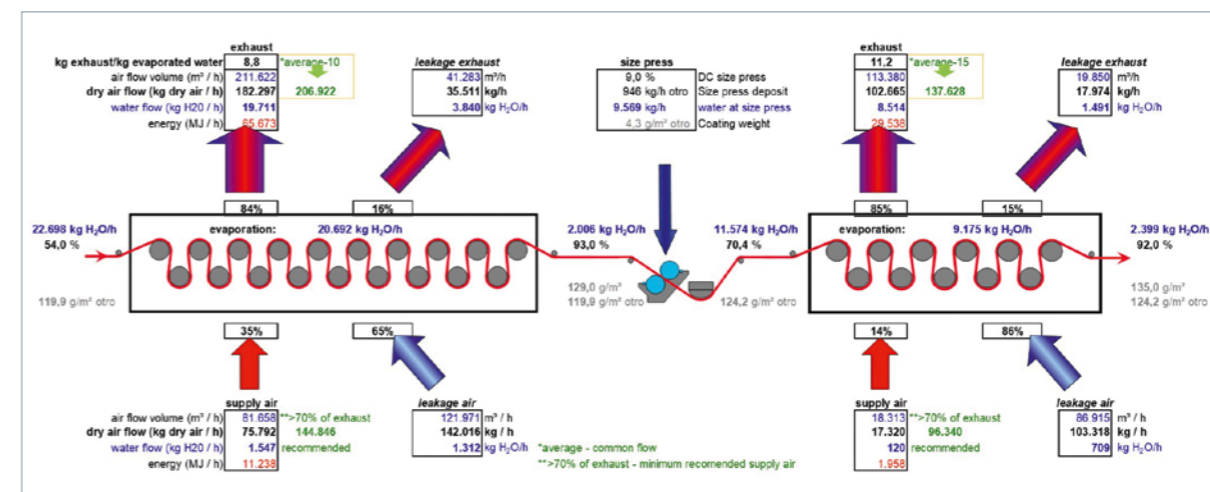


Fig. 7: Hood balance

## 2. From the field

### 2.1. Case study 1

The most common description of paper drying is „In the dryer section, water is evaporated from the paper web“. The aim, however, is actually to remove the water from the web and not to vaporise it. As a rule, 1.2 - 1.6 tonnes of steam are used per tonne of paper. However, there are also systems that manage with less than 1.0 tonne of steam.

A paper machine produces packaging paper at 650 m/min. The dryer section was gradually optimised based on our recom-

mendations. The focus was on the ventilation system - pocket ventilation in particular. The result was significantly improved runnability and fewer breaks, with higher production and reduced energy consumption at the same time.

#### Result after phase 1+2:

- reduced specific steam consumption (Fig. 8)
- simultaneously higher evaporation rates
- more uniform moisture profile
- improved runnability
- fewer heated cylinders in operation
- greatly reduced fabric temperature and therefore lower risk of hydrolysis

### 2.2. Case study 2

The dryer section has another, often forgotten, function: it must transport the web safely and without interference. The importance of this task increases exponentially with speed, and the drive plays a key role here. In the majority of cases, only selected cylinders are driven; the remainder are pulled along via the dryer fabrics. As such the dryer fabrics, like all other clothing, act as drive belts. The resulting forces must not be ignored.

#### Problem definition

On a machine producing newsprint, an increasing number of breaks (6-7 per day) were detected within a dryer group. We suspected speed differences and carried out a non-contact speed measurement.

#### Solution

Our measurements showed that the upper cylinders were running slower than the lower ones (Fig. 9). The differences were up to 5 m/min. The changing tensile load led to increased sheet breaks, especially during threading. The reason for the deviations was deposits on the last lower cylinder 27, which was driven and had a larger diameter than the one without deposits. At the same rotational frequency, the circumferential speed of the lower cylinders, including the non-driven cylinders, was higher than that of the upper cylinders. A deposit thickness of approx. 3 mm was calculated from the speeds measured.

After cleaning the cylinders, the machine could be operated again without breaks.

**Customer benefits = Increased production of approx. 70 tonnes/day**  
 $(1520 \text{ m/min} * 9.20 \text{ mAB} * 42 \text{ g/m}^2 * 6 \text{ breaks/day} * 20 \text{ min/break} = + 70.479 \text{ tonnes/day})$

### 2.3. Case study 3

#### Problem definition

On a packaging paper machine, there was an increase in sheet breaks in the after-drying section (Fig. 10). The customer suspected speed differences. As a first step, we used a laser to determine paper and wire speeds without contact. We also measured the rotational frequencies of the cylinders and the guide rolls and calculated their surface speeds, taking into account also the current wire thicknesses (1.9 mm).

#### Solution

We calculated the speeds applying a fabric thickness of just 1.0 mm (Fig. 11+12) and recommended the use of thinner fabrics. These resulted in lower sheet draws in the dryer group and significant reduction of breaks.

#### Recommendation

In the above example, the unfavourable drive concept (a combination of cylinder drive and silent drive, Fig. 10+13) is the main cause of the frequent breakages. To solve this problem once and for all, the drives must be optimised or the distribution of the groups changed (Fig. 14).

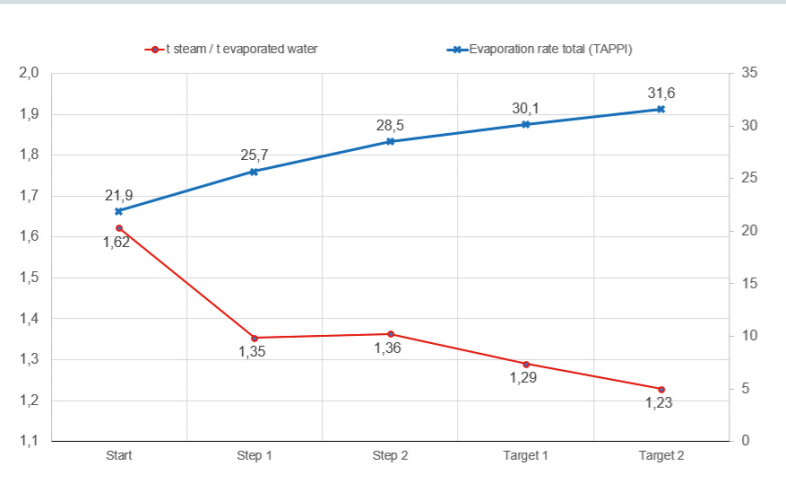


Fig. 8: Development of specific steam consumption and evaporation rate

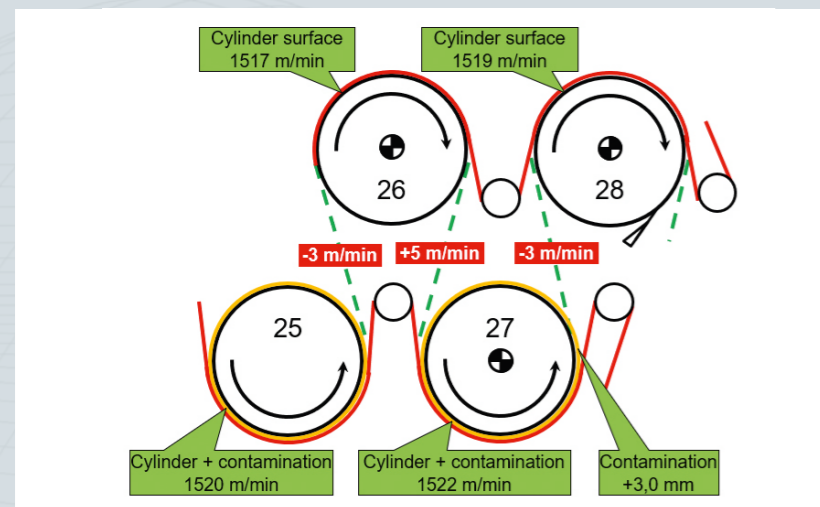


Fig. 9: Determined circumferential speeds

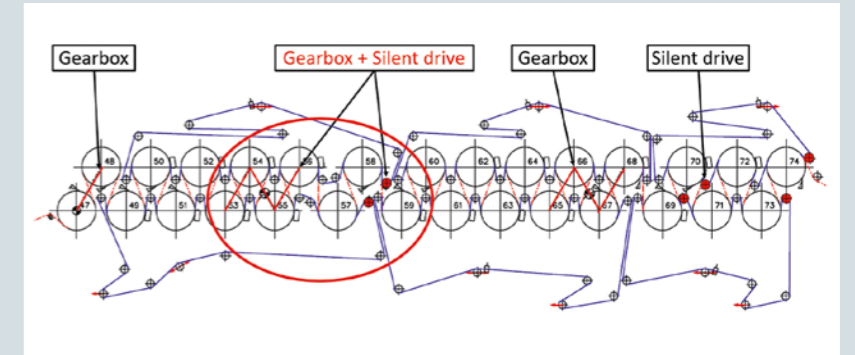


Fig. 10: Drive diagram of the after-dryer section

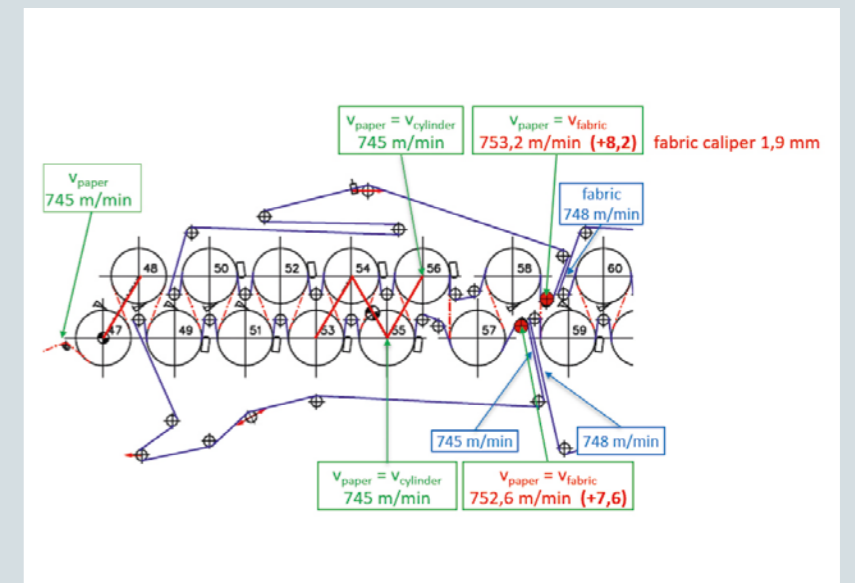


Fig. 11: Change of speeds by switching to thinner fabrics

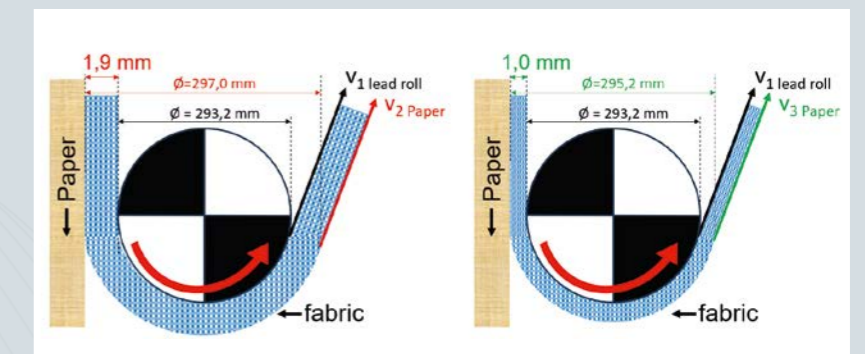


Fig. 12: Influence of fabric thickness on paper speed

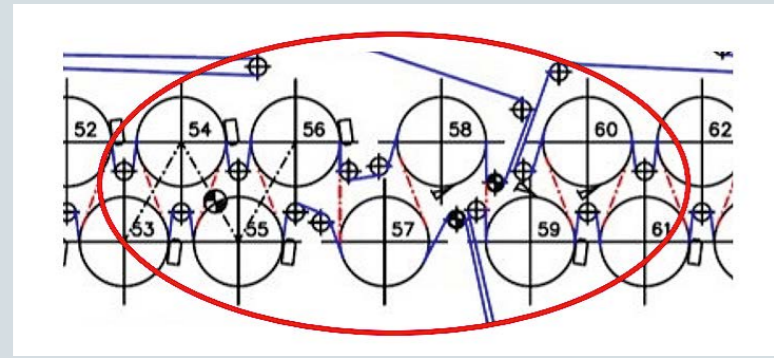


Fig. 13: Drive concept old

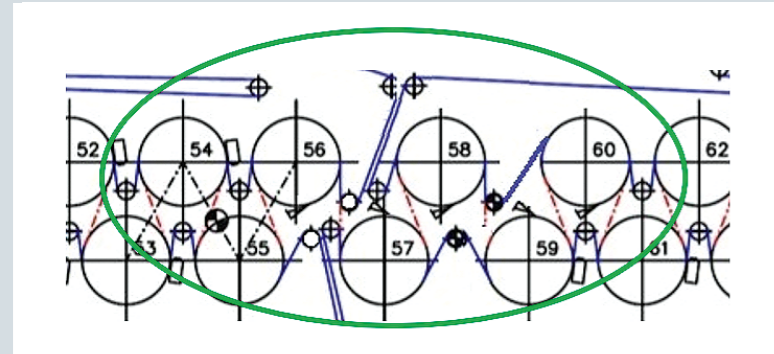


Fig. 14: Drive concept new

#### 2.4. Case study 4 Thermography

##### Wet edge on the drive side

If a profile fault originates in the forming section, this can often be recognised in images taken at the start of the pre-drying section. In the following example (Fig. 15), thermography was used to show a correlation between a cold or moist paper web edge and a drop in the nip pressure of the press on operator side.

If there is a steam blow box in the wet section, it is important to switch it off with a time interval before taking the infrared images. Faults that can no longer be corrected by online profiling systems are often caused in the forward section of the paper machine.

*Audits and measurements  
by our specialists can certainly  
help you to identify and eliminate  
the causes at an early stage.*

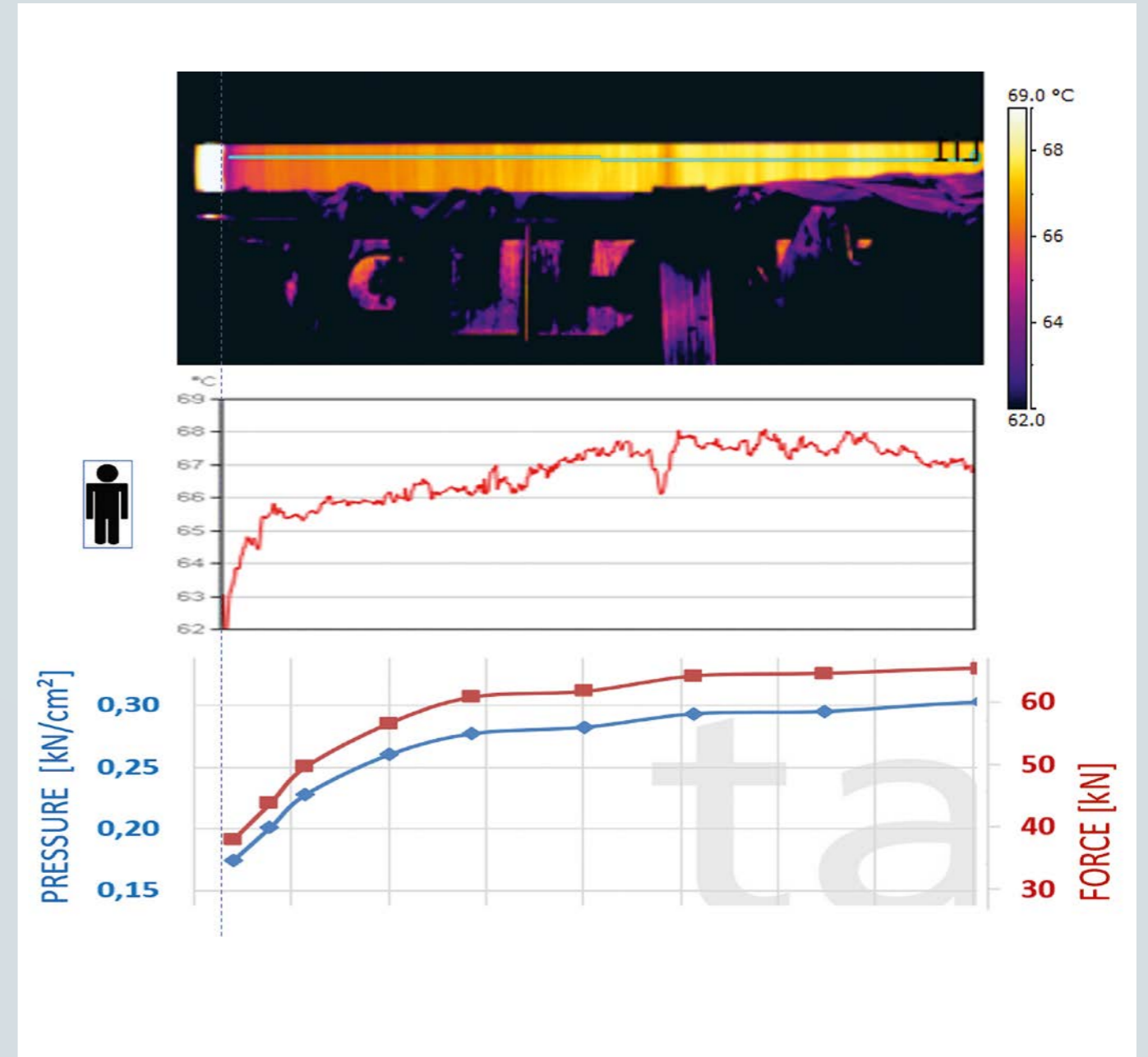


Fig. 15: Paper web under the first VacRoll; drop in the temperature profile at the edge on the operator side

**Do you have any questions  
about this article or would you like  
to be sure that your system is running  
at maximum productivity?**

**Please feel free to make an  
appointment with us.**

**Your questions will be answered by**

Michael Loenißen  
Tel. +49 (0) 2421 802 463  
Michael.loenissen@heimbach.com



# Boldly different: A successful concept for the press section

Smurfit Kappa took over the Verzuolo corrugated board plant in northern Italy from Burgo Group in summer 2021. PM9 was converted to produce packaging papers in 2019, with an annual capacity of 600,000 tonnes. We spoke to mill manager Raffaele Marinucci on the subject of an unusual and promising concept for the press section.



Raffaele Marinucci

**Your company has already worked closely with Heimbach during the conversion of the PM9. Would you say, therefore, that you are very familiar with our products?**

Yes, we have plenty of experience with Heimbach Webmover. We produced LWC paper at that time and the Heimbach transfer belt was considered to be standard in the second bottom position of the OptiPress.

**Where did the idea to reintroduce the transfer belt on PM9 originate?**

As part of the conversion of the machine to packaging paper production, the transfer belt position was converted to a press felt position with typical vacuum elements such as uhle box and separation roll. The conversion went well; we're now successfully producing packaging paper and continuous improvement processes have already started to maximise both the efficiency and throughput of our paper machine. Our past experience of using transfer belts for the production of LWC papers, along with the increasing demands of lightweight packaging papers, gave us the idea to test Webmover again.

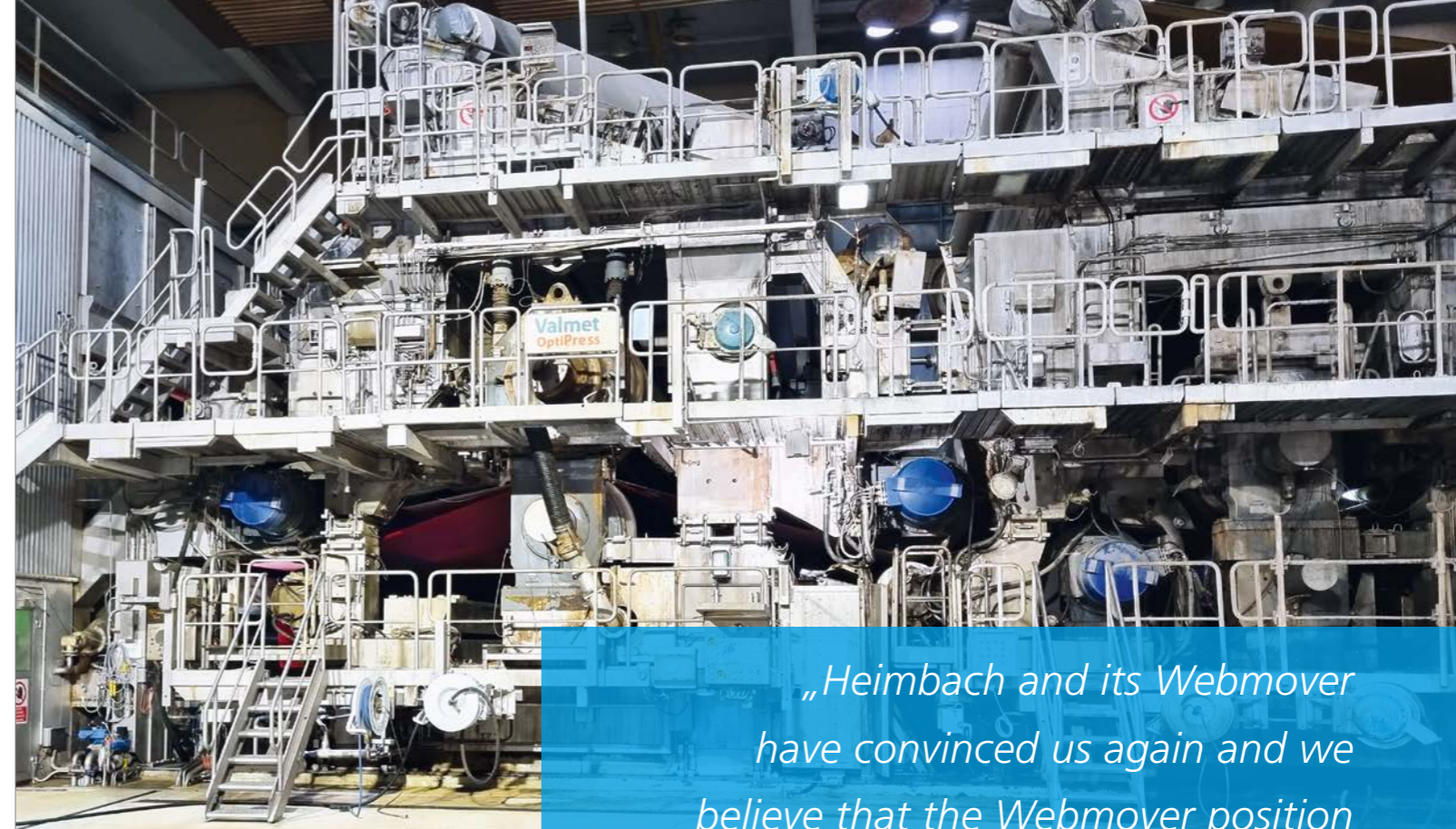
**The realisation of this press section concept, which is unique in the industry,**

**required both courage and experience. How did you manage the conversion?**

We were able to apply considerable know-how and experience in terms of LWC production when moving towards the manufacturing of packaging papers - and we know our paper machine inside out - so we had a clear picture of the experiment, with regard to both its risks and benefits. During the technical feasibility study, Heimbach became involved for its expertise as well as its long-term experience concerning the use of Webmover on our PM9 machine. Most of the Smurfit Kappa and Heimbach personnel that were involved in the technical discussions had known each other for a long time which meant that we were able to act quickly and get straight to the point. This helped to keep things moving in the right direction.



From left, Frank Barthel, Giacomo Gregori, Robert di Poce, Fabrizio Baldi



*„Heimbach and its Webmover have convinced us again and we believe that the Webmover position will remain on our PM9.“*

Raffaele Marinucci

Online meetings also helped to clarify sudden questions on the spot and so the decision was taken to do the test within a short timeline.

**The project was deemed a success after only 6 months. What are the advantages in terms of your production?**

The trial plan allowed us to go back to the press felt configuration if the test wasn't successful. However, this wasn't the case and I'm pleased to report that the Webmover has been in operation since January. We can already see several advantages for our paper production; the post press dry content remains within target range and power consumption has been reduced considerably because vacuum is no longer required in the second bottom position. Further benefits include a low 2-sigma moisture profile in the sheet and stable production. Heimbach and its Webmover have convinced us again and we believe that the Webmover position will remain on our PM9.

**What is SK planning next at the Verzuolo site?**

PM9 was commissioned in the year 2001 and there is still potential to modernise the machine and further increase manufacturing capacity and efficiency. We could envision the installation of a shoe press in place of the existing first press, for example, and the installation of a sleeve roll in the forming section could reduce the energy demand. At Smurfit Kappa, we take a data-driven approach to innovation with a high focus on production efficiency, employee safety and wellbeing. We also aim to have the lowest possible environmental impact at every site in our global network.

**How do you see the paper market developing?**

Well, there is a trend towards lower basis weights for packaging paper. The market may require even lighter weight papers in future which are below current low weight level of approx. 60-70 g/m<sup>2</sup>. The main challenge will be to produce low basis weight papers that retain sufficient strength properties. However, we are confident that our long-term experience in manufacturing paper and paper-based packaging products in the most sustainable and innovative way possible, will equip us to meet both this and future challenges.

**Mr. Marinucci, thank you for the interview and we look forward to further cooperation.**



# NewTech continues to gain ground

The Atromaxx family is characterised by a combination of woven bonding modules that allow felt designs to be tailored to the specific requirements of a particular press configuration and paper grade. The modular design principle opens up the possibility of numerous different combinations which, in turn, allows application engineers to fine tune designs for all applications. In order to meet the growing demand for such versatile products, another state-of-the-art weaving machine was installed at our Düren site at the end of the last year.



Thanks to the multi-axial arrangement of the bonding modules, Atromaxx press felts come with a structure that is extremely resistant to compaction. On the one hand, this maintains void volume over the life of the felt and, on the other hand, open drainage channels enable large quantities of water to be handled. The result is an exceptionally high dry content!

With its modular design, Atromaxx offers versatility in terms of paper grades and production speed and, combined with the right batt surface, is suitable for every machine and every nip.

More than 90 per cent of Heimbach press felt production consists of NewTech products, including Atromaxx. Knowing that demand will continue to grow, we took the decision to significantly increase our capacity for multi-axial technology at our Swiss and Chinese sites some years ago. With this latest investment, we are creating the basis for reliable delivery times and even greater security of supply.



## Product Features of the Atromaxx family

### Multi-axial felt

- Modular construction: Combination of totally different base properties possible within one felt
- Outstanding compaction resistance due to multi-axial structure
- Outstanding void volume retention
- Absorption of huge amounts of water
- Excellent dewatering throughout felt lifetime
- High stability
- Operation modes for nip and uhle-box dewatering
- Applicable for all paper grade

Also with seam!

# Measure us by our service

Understanding problems and solving them quickly, recognising and implementing requests. That's what our customers expect. And that is exactly what they get. With our Strategic Product Management Service, we are constantly working to increase and improve service expertise and optimise processes. As a partner to the paper industry, we aim to deliver not only high-performance clothing but also perfect customer service.



Urban Kohler  
Strategic Product Manager Service

Good products are one thing, comprehensive service is quite another. We know just how complex the demands on production and processes in the paper industry have become. Our central concern is to provide you with the best possible support and to fulfil, if not exceed, your expectations. In this context, we consider measurement and reporting to be of great importance. The data and analyses that are provided should be compact, concise, clear and easy to understand.

### The new measurement and reporting standard

Our reporting system was scrutinised and thoroughly revised in the new and specifically established Strategic Product Management Service department headed by Urban Kohler. In addition to improvements in the visual look, we have focussed in particular on a predefined content structure. Regardless of the respective author within the Heimbach organisation, each measurement report is now structured identically.

The advantage of this is that relevant key statistics can be viewed more easily over different time periods. This allows trends to be recognised at an early stage and processes to be adapted accordingly. We have also expanded our software. It is not only fed with customer and machine data, but also with type-specific information. This in turn helps us with product development, as we are now able to compare values across all machines.

### Safety first

Dangers and risks lurk in every company and can creep into everyday production, becoming routine all too quickly. For this reason, both you and our service personnel receive regular training in occupational safety. As part of our optimised reporting system, we have developed what we call a safety sheet. We use this data sheet to gain an overview of the working environment in advance of every measurement or service. Unsafe situations are labelled on a checklist and attached to the measurement report.

### Knowledge database provides added value

Another step towards better customer service is the development of a broadly diversified knowledge database. In addition to current industry information, it contains a comprehensive archive. In particular, different problem-solving methods can be called up at any time. This gives us transnational access to a wealth of knowledge so that we are able to quickly find answers to your questions. We can also provide customised advice and tailor our products and services even more specifically to your needs.

### Predicting performance

How can we help to make work and process flows in the paper and textile industry simpler, more predictable and easier to plan? This is a question we are constantly asking ourselves. One of our key tasks is to make predictions about the performance of our clothing that are as accurate as possible under a wide range of requirements. To do this successfully, calculations have to be made and processes simulated - the amount of data required is huge. In co-operation with research institutes such as RWTH Aachen University, we have made significant progress.

Every single paper machine could be viewed as a „black box“ with numerous uncontrollable influencing variables. Clothing, for example, can be subject to high levels of wear, with the extent, intensity and speed depending on many customer-specific variables. For us, this means that we need a better understanding of the relationships between the „new“ felt and the „worn“ piece. This is the only way to make reliable predictions. The more information we receive in advance, the more accurate the calculations become. We are therefore focussing more than ever on the close analysis of returns and the consistent collection of data.

### How can we support you?

**Do you have any questions about our service, suggestions or ideas for improvement?**

Urban Kohler looks forward to hearing from you.



# The calculation works!

By means of a specially developed calculation tool, we find ourselves in position to support you in both measuring and quantifying undiscovered savings potential. This is a further milestone in the course of our continuous measures to improve the efficiency of your production and at the same time help you save energy, time and resources.

Rising raw material prices, exploding energy costs, interrupted supply chains - the paper industry, like many other sectors, has to employ a sharp pencil when going through its computations. Unfortunately, we have no influence on market conditions, but there are still adjustments that we can make together. With our new calculation tool, you can specifically determine how certain features affect the profitability of your production.

For some time now, we have recognised the importance of intensifying our exchanges of experience and knowledge with you in order to actively seek out potential for improvement. We document the initial situation/ task, record your expectations, clarify the solution and calculate the added value achieved. Supplemented by various key figures such as machine data, raw materials and the type of paper produced, this data

is extremely valuable in providing you with the best possible support and „intelligent“ solutions.

With targeted customer case studies and calculations of comparable practical cases, previously undiscovered savings potential can be analysed and calculated.

## Quantify potential savings

Using the name ‚Making the Value Clear‘ for the Heimbach formula already clarifies exactly what it is all about: added value that is not always obviously recognisable, but can be calculated. The parameters vary according to customer requirements or are dependent on your production targets: Saving energy, reducing emission values, longer running times, higher machine speeds, etc.

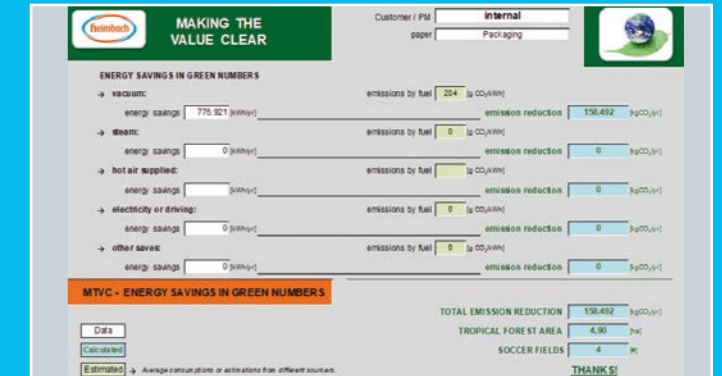
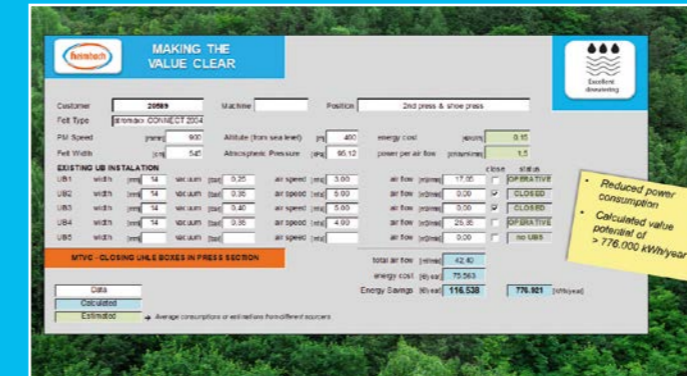


In 2023 alone, our sales teams in Europe and Latin America successfully implemented over 30 technical projects for customers, each one a monetary gain. **We would also be happy to apply our calculations to your process.**

# Added value that pays off

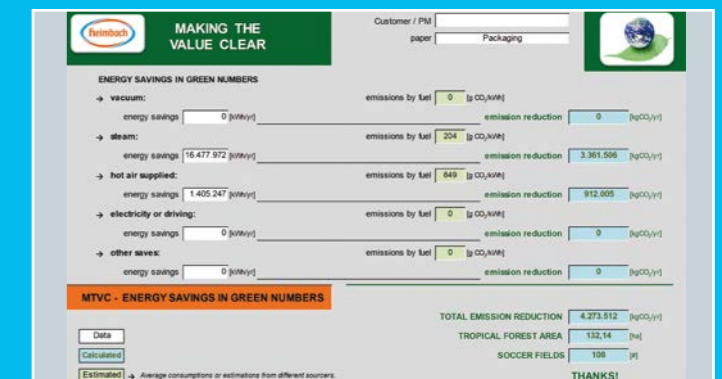
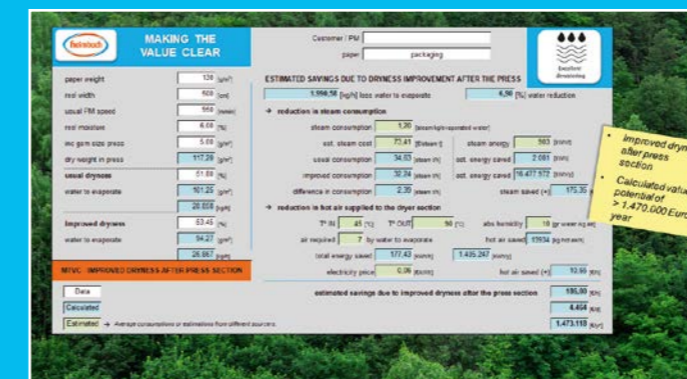
## Customer example 1

By switching off the uhle boxes on a machine making packaging paper, it was possible to reduce energy costs by almost 120,000 euros per year and at the same time extend the felt running times (further savings of approx. 19,000 euros per year).



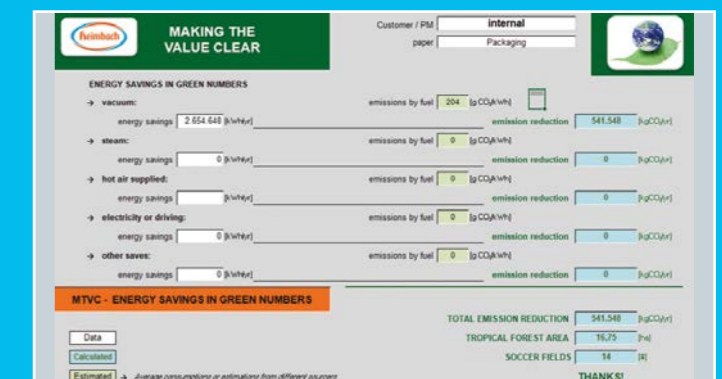
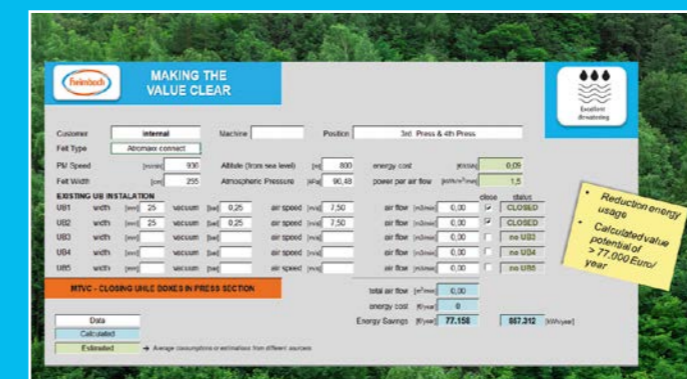
## Customer example 2

In the second case, the cause of the insufficient dewatering could be found by speed measurement, among other things. Its elimination and a change of felt design paid off in significantly higher dry content and a saving of almost 1.5 million euros per year.



## Customer example 3

In the third example, our calculation showed an annual saving of just under 78,000 euros, by switching off uhle boxes in the press section.





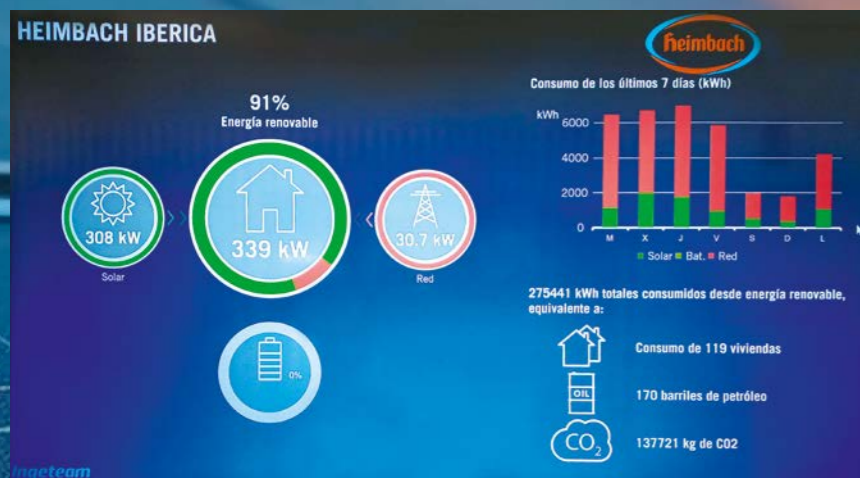
The energy generated by the solar system will be > 500,000 KWh/year

## Strategy 2050 and targets 2022ff

Our strategic goal for the Heimbach Group is to reduce our GHG emissions [CO<sub>2</sub>] with regard to Scope 1 and Scope 2 by 50% by 2035 compared to the base year 2017 and to be climate neutral (Scope 1+2) in 2050.

### Detailed targets for gas savings:

approx. 14,000 MWh annually  
**Electricity consumption:**  
 use of 100% renewable energy  
**GHG emissions [CO<sub>2</sub>]:**  
 Savings of 2,600t annually  
 Recording of all Scope 3 emissions by 2025  
**Service vehicles:**  
 expansion of e-mobility by 2025



A monitor in the foyer provides information about the current energy situation



Under optimal conditions, the solar system covers up to 40 per cent of the daily energy requirement

## A sunny outlook

Solar power is on the rise worldwide. A study carried out by the British University of Exeter reached the following conclusion: Photovoltaics will be the predominant source of energy before the middle of the century. Within the Heimbach Group, we are also pressing ahead with the expansion of green energy as our latest examples from Italy and Spain show.

The sun was smiling in 2023: Photovoltaic systems with a total output of 413 gigawatts were installed worldwide. Just to give you an idea of scale here: a modern nuclear power plant is able to produce around 1,400 megawatts of electricity. If you add up the new solar panels installed around the globe, they equal the output of almost 300 nuclear power plants. An impressive achievement to which Heimbach has also made its contribution. Our focus on alternative energy sources has been on the increase for many years now.

### Into the future with clean energy

We have committed to attaining carbon neutrality by 2050 in our sustainability strategy. This applies across all sites within the Heimbach Group. It allows us to make a significant contribution to climate protection whilst, at the same time, reducing our dependence on external energy supplies. Following heavy investment in the expansion of photovoltaics in China and Belgium during 2022 - see also impressive 2/2022 - the focus last year was on our plants in Italy and Spain.

At our technical textiles plant situated in the north of Italy we make, among other products, continuous felts for textile finishing machines and belts for the battery and rechargeable battery industry.

As part of an energy efficiency programme, considerable investments were made in photovoltaics. Most of the buildings roofing that is not taken up by skylights now shines in the crystalline blue of solar panels. With a total output of around 1,000 kWp, the new system covers the electricity requirements of the whole site.

We have also invested sustainably at Heimbach Ibérica. In Burgos, Castile region, where conditions are particularly favourable, not only was a new weaving machine purchased, but also state-of-the-art solar technology. The result: almost 20 per cent of the total electricity requirements are already covered by solar power.

So, whether in Asia or in Europe, we have made good progress in our own energy revolution. And it continues: our future plan for Heimbach Group calls for 6,500 MWh to be generated every year through solar power. This will provide an annual saving of around 2,600 tonnes of carbon dioxide: A win-win situation for Heimbach and the environment.

# In profile

At Heimbach, many paths converge and employees in Europe and Asia work hand in hand. As representatives of our international team we are happy to introduce four more committed Heimbach colleagues to you today.

## Daniel Müller

### Role/Position:

Sales & Service South Germany

### My professional background/training:

Papermaker / Industrial Foreman

### I have been with Heimbach since:

March 2023



### My tasks are:

Supporting our customers to help get the best out of our products. In the event of problems, working with our customers to solve them.

### The best thing about my job is:

Working in partnership, with both colleagues and customers, as well as the high level of independence that the job brings.

### I have a weakness for:

Eating well

### In my free time I enjoy:

Spending time with my family, good films and cooking

### My tasks are:

To ensure that our customers in the Italian Paper Industry receive the best products possible from Heimbach, and to provide reliable technical service.

### The best thing about my job is:

I have the opportunity to meet many new and interesting people from all over Italy

### I have a weakness for:

My wife and daughter

### In my free time I enjoy:

Outdoor sports such as cycling, hiking, climbing, skiing ...



## Fabio Bruni

### Role/Position:

Sales & Service, Italy

### My professional background/training:

Production planning in seaming department and process control of forming fabrics. Customer service & trouble shooting on the paper machine also formed part of my remit.

### I have been with Heimbach since:

January 2023

## Javier Vieira

### Role/Position:

Production Manager at Heimbach Ibérica

### My professional background/training:

MBA Engineer / I have held various positions in operations and production

### I have been with Heimbach since:

February 2022



### My tasks are:

Ensure that our products are available on time and at consistent levels of quality. Occupational safety and employee motivation also play a major role.

### The best thing about my job is:

The opportunity to work with people from different areas and backgrounds – also to be in a position to learn something new every day.

### I have a weakness for:

Nuts of any kind and description, such as hazelnuts, walnuts, cashew nuts, almonds and pistachios – to name a few.

### In my free time I enjoy:

Hiking with my family, tending my vegetable garden and playing basketball in a team.

### My tasks are:

Looking after our Polish customers

### The best thing about my job is:

That hardly any day is the same as the last. The job is so varied and offers a full range of new and different tasks and challenges. I also love the daily contact with people.

### I have a weakness for:

My family. I spend as much time as possible with my loved ones.

### In my free time I enjoy:

Working with wood and sport (on my bike or at the gym)



## Tomasz Włodarski

### Role/Position:

Sales & Service Poland

### My professional background/training:

I was assistant manager in Poland and also in Spain. I have supported many major projects.

### I have been with Heimbach since:

February 2023



## When it comes to performance



Your paper machine certainly has a lot of potential, it's a question of getting it out: Start up faster, dewater more and run your clothing for longer - with our New-Tech fabrics you can increase performance and cost efficiency. Are you looking for process optimisation? Our experts can support you in reaching your goals with a combination of high-tech equipment and know-how. Learn more at:

[www.heimbach.com](http://www.heimbach.com)

