



34th International Munich Paper Symposium

PROGRESS IN BOARD AND PAPER TECHNOLOGY

17 – 19 March 2026

17–19/03/ 2026
iMPS

34th International Munich Paper Symposium

PROGRESS IN BOARD AND PAPER TECHNOLOGY

17 – 19 March 2026

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IMPS

9-11 March

2027

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A picture of last year's 33rd International Munich Paper Symposium 2025 · Photographer: Helgi Seemann

Welcome

Dear Participants,

This year, the International Munich Paper Symposium (IMPS) will once again focus on developments that optimize paper and board manufacturing processes and improve product quality. An unusually large number of reports come directly from paper mills, underscoring both the credibility and feasibility of the optimizations presented. The speakers come from various suppliers and the following paper mills: Model from Switzerland, Büttenpapierfabrik Gmund from Germany, Koehler Kehl from Germany, Model Papier Eilenburg from Germany, Progroup PM3 from Germany, Laakirchen Papier from Austria, SAPPI Maastricht from the Netherlands, Holmen Paper Iggesund from Sweden, WEPA Hygieneprodukte from Germany, Mondi Štětí from Czechia, Holmen Norrköping from Sweden, Weig Group from Germany, and MM Gernsbach from Germany.

During the International Munich Paper Symposium, participants will have the opportunity to visit various exhibition areas directly in the center of the conference within the general coffee break area. Each exhibitor will be briefly introduced during the introductory welcome. Further information will then be available at the respective exhibition booth.

In addition to the conference and exhibition, IMPS is an ideal opportunity to get in touch with students from the international and unique in Europe, English-only Master's program in Paper Technology at Munich University of Applied Sciences. The students come from many different countries and, in addition to the English language, they all share an interest in technology and the tissue, paper and board industry. Approach the many students in attendance and you may find your future application engineer or long-sought country-specific sales representative among them.

For future contacts, you can always contact Munich University of Applied Sciences at papertec@hm.edu regarding job offers or interesting internships. Further information about the bachelor's program, the dual paper technology program in Munich, and the master's program in paper technology can be found online at hm.edu/smp, mpt.hm.edu, and www.paper.university.

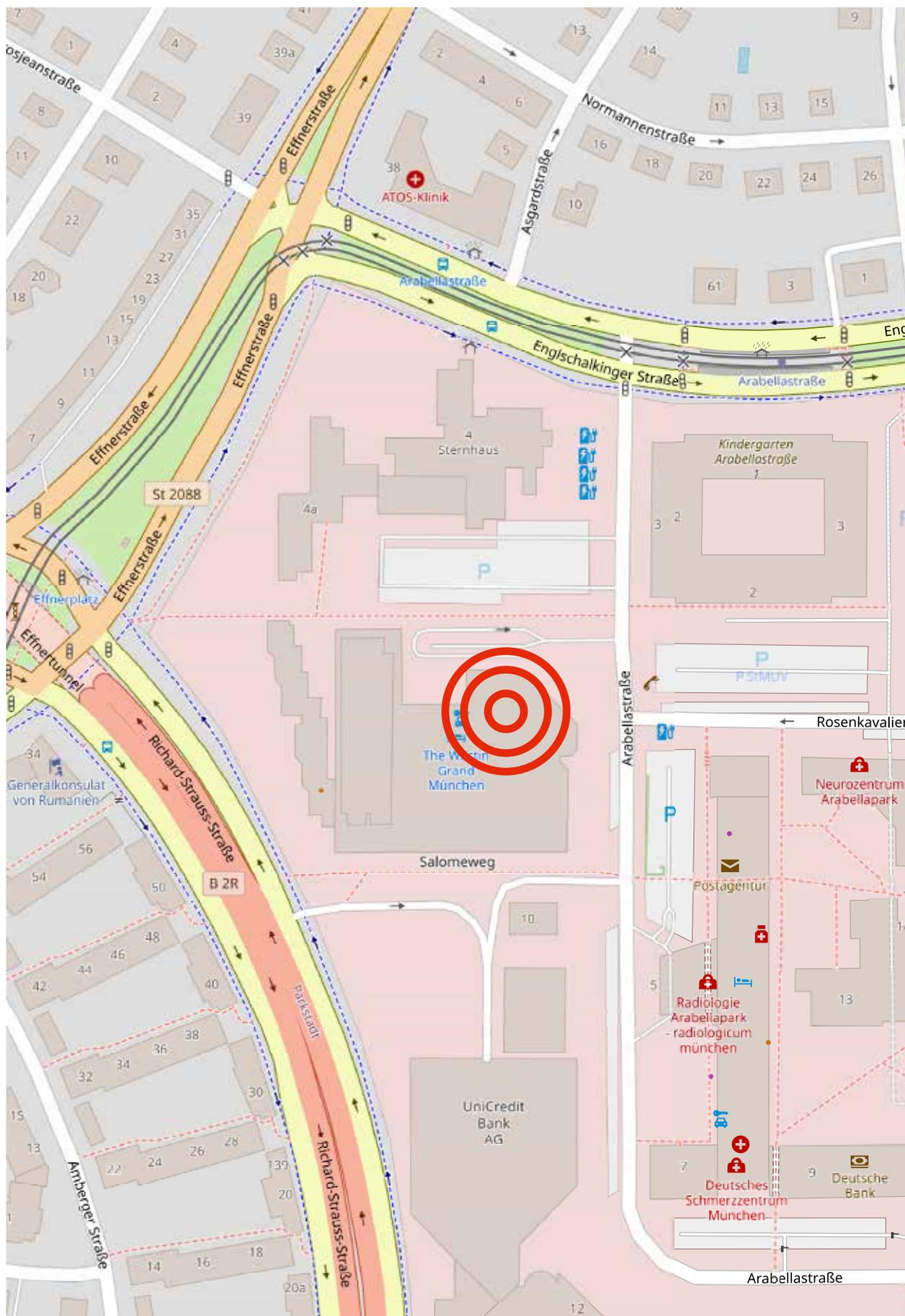
In addition to training around 50% of all paper engineers for Germany, Austria, and Switzerland, the Biofibers and Paper program at Munich University of Applied Sciences, as part of its affiliated institute IVP (Institute of Paper Technology), conducts contract research and research on current topics in biogenic fiber technology and process optimization (www.ivp.org).

I hope you enjoy exciting, practice-oriented presentations and an interesting exhibition, so that you, as a participant, can discuss your own problems with fellow experts and get in touch with the exhibitors and our many German and international students of paper technology.



Prof. Dr. Stephan Kleemann

MAP OF THE SURROUNDING AREA



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A map of the surrounding area. The red circles mark the conference location..

CONFERENCE PROGRAMME

Tuesday, 17 March 2026

Morning Session

- 09:00 **Welcome and overview of the exhibition**
Stephan Kleemann · IVP - Institute of Paper Technology · Munich / Germany
- Paper Mill Büttenpapierfabrik Gmund – “A different approach to paper”
from Lake Tegernsee**
Holger Baumgartner · Büttenpapierfabrik Gmund GmbH & Co. KG · Gmund / Germany
- First methanol-producing and CO2-free paper mill**
Claes Fredriksson · Liquid Wind AB · Gotheburg / Sweden
Engelbert Schrapp · Siemens Energy AB · Stockholm / Sweden
-  **Discussion and Coffee Break**
- 11:15 **Increasing fiber efficiency & plant performance in brownfield and
recycling applications**
Stefan Wessel · Landbell GmbH · Mainz / Germany
Ulrich Neumüller · Repulping Technology GmbH & Co. KG · Schiltberg / Germany
Cornelia Beyer · Repulping Technology GmbH & Co. KG · Schiltberg / Germany
- AI system for recording and evaluating waste paper intake and optimizing
corrugated base paper production**
Franz-Joseph Nicolaus · Model AG · Niedergösgen / Switzerland
Hendrik Kolvenbach · UpCircle Technology AG · Zürich / Switzerland
-  **Lunch at The Westin Grand Munich conference hotel**

Afternoon Session

- 14:00 **Strategy „Green Paper“ – Press rebuild of the Kehl paper machine 1**
Arne Schaper · Koehler Kehl GmbH · Kehl / Germany
Tobias Kolhagen · J.M. Voith SE & Co. KG · Ravensburg / Germany
- Optimization of a double shoepress**
Phillippos Vrizas · Progroup PM3 GmbH · Sandersdorf-Brehna / Germany
Peter Resvanis · Progroup PM3 GmbH · Sandersdorf-Brehna / Germany
-  **Discussion and Coffee Break**
- 16:00 **Modern drum pulping technology for recycled fibers**
Oscar Streubel · Model Sachsen Papier GmbH · Eilenburg / Germany
Petteri Riivari · Valmet Technology Oy · Inkeroinen / Finland
- First experiences with a new screening technology at heinzelpaper Laakirchen**
Oliver Hunstein · Laakirchen Papier AG · Laakirchen / Austria
Axel Dreyer · J.M. Voith SE & Co. KG · Ravensburg / Germany
- 20:00  **Gala-Dinner at The Westin Grand Munich conference hotel**

Wednesday, 18 March 2026

Morning Session

09:00

Operational excellence in monitoring refiner processes

Tjerk Boersma · Sappi Maastricht B.V. · Maastricht / The Netherlands

Combined analysis of process data and product property measurements to reduce product variability

Hannes Vomhoff · Holmen Board and Paper · Iggesund / Sweden

Operational water risk management at WEPA: the Cassino plant as an example

Tim Carstens · WEPA SE · Arnsberg-Müschede / Germany



Discussion and Coffee Break

11:15

New sack kraft paper machine for the Mondi Štětí mill

Mariusz Grochowski · Mondi Štětí a.s. · Štětí / Czechia

Erich Kollmar · Bellmer GmbH · Niefern-Öschelbronn / Germany

Lightweight containerboard – Evolving with Holmen Elevate and paper machine 52

Jan Andersson · Holmen AB · Norrköping / Sweden

Piotr Sokolinski · Andritz AG · Graz / Austria



Lunch at The Westin Grand Munich conference hotel

Afternoon Session

14:00

Pilot project at Model Sachsen Papier with "Paper Machine Drives Performance"

Dirk Schwarze · Model Sachsen Papier GmbH · Eilenburg / Germany

Niko Lahtinen · ABB AG · Mannheim / Germany

Improving cartonboard quality by installing a curtain coater on board machine 3 at WEIG in Mayen

René Kaptain · WEIG Group · Mayen / Germany

Martin Taxacher · Valmet Technologies Oy · Järvenpää / Finland



Discussion and Coffee Break

16:00

Experience with a closed recycling loop for felts

Anne Klaschka · J.M. Voith SE & Co. KG · Heidenheim / Germany

Energy transformation as a key to profitability at MM Gernsbach

Konstantin Weber · MM Gernsbach GmbH · Gernsbach / Germany

Markus Bohlayer · Path to Zero GmbH · Karlsruhe / Germany

Summary

Stephan Kleemann · IVP - Institute of Paper Technology · Munich / Germany

18:30



Invitation to the world famous Circus Krone

Start of the show at 19:30

Thursday, 19 March 2026

Excursions

- Thursday
Departure time: 09:00 **Paper Mill Büttenpapierfabrik Gmund** (Fine papers)
in Gmund am Tegernsee / Germany
- Thursday
Departure time: 09:15 **BVG Bauer-Verfahrenstechnik-GmbH** (Engineering supplier)
in Greifenberg / Germany
- Thursday
Departure time: 09:30 Laboratories, Pilot Paper Machine and Coating Units at the
Munich University of Applied Sciences in Munich / Germany

All buses leave from in front of The Westin Grand Munich conference hotel and return there afterwards.

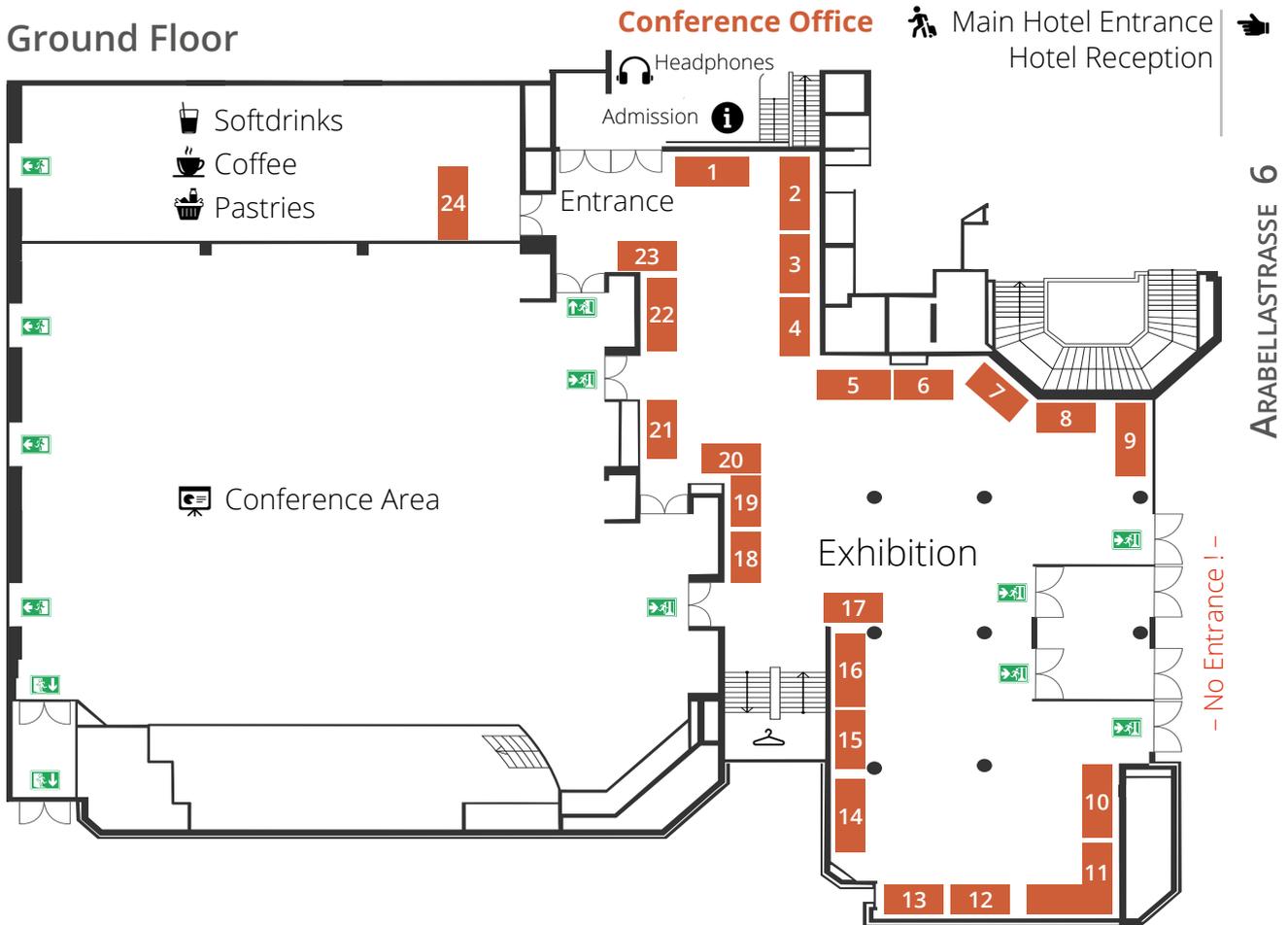


Prof. Dr. Stephan Kleemann (IMPS Organiser) · 33rd International Munich Paper Symposium 2025

EXHIBITORS

Conference and Exhibition Area

Ground Floor



1	Villforth	9	PTS	17	GAW technologies
2	Kadant	10	DISAB	18	Gloning & AREC
3	emtec	11	Trimble	19	FRANK-PTI
4	KPNB	12	N.C.R. Biochemical	20	fipptec
5	emco & Techpap	13	wolf heilmann	21	Deublin
6	Maintech	14	BM Green Cooling	22	MAUEL
7	X-Rite	15	Everllence	23	PM-SD
8	AUCOTEC	16	Börger	24	HM & IVP & PaCon

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Data status: Monday, 9 March 2026



33rd International Munich Paper Symposium 2025 · Photographer: Helgi Seemann

ABSTRACTS

Welcome and overview of the exhibition

Stephan Kleemann · IVP - Institute of Paper Technology · Munich / Germany

Now in its 34th year, IMPS continues to focus on developments that optimize paper and board manufacturing processes and improve product quality. Almost all reports come directly from paper mills and are of value for other paper mills.

At the exhibition, you will meet well-known as well as new companies with their products and services in the conference break area. These include AREC with automation solutions for the paper and pulp industry. AUCOTEC offers engineering software for the entire life cycle of machines and plants. BM Green Cooling stands for cooling and heating with the aid of heat pumps. Börger develops, produces, and markets rotary lobe pumps, separation technology, and shredding technology worldwide. DEUBLIN is the leading company in the field of steam rotary unions and siphon technology and is often also the point of contact for steam systems and the optimization of the drying section. DISAB is a leading manufacturer of suction systems for industrial applications for reliable waste disposal and thorough deep cleaning. Emco manufactures and supplies a wide range of measuring instruments and testing machines used to test paper, board, and pulp. emtec Electronic has been developing, producing, and distributing measuring instruments for the paper, board, and tissue industry worldwide for over 30 years. Everllence has been represented in the paper industry for almost 80 years with its Turbair® portfolio. fipptec offers solutions and products to make paper production more efficient, competitive, and of higher quality. Frank-PTI presents itself as a partner for the highest quality, customer-oriented solutions, and uncomplicated and fast service in material testing. GAW technologies is a global industrial plant engineering company with a special focus on the pulp and paper industry. GAW technologies is also kindly once again sponsoring the Cultural Evening of the IMPS. Over the past four decades, Gloning Krantechnik has developed into one of the leading crane suppliers in Europe. Munich University of Applied Sciences is the central training institute for paper engineers in German-speaking countries. The Institute of Paper Technology (IVP) is an affiliated institute of Hochschule München University of Applied Sciences (a.k.a. Munich University of Applied Sciences) that provides organizational and financial support to the paper and packaging technology degree program to improve teaching and research. Kadant is a leading global supplier of high-quality components and systems for paper mills and paper machine manufacturers. Ms. Buschmeier from KPNB will once again be exhibiting, presenting topics related to efficient production and potential savings. Maintech offers solutions for problems caused by disruptive deposits on dry screens and all types of rollers and cylinders. MAUEL Sicher Arbeiten is known for its seminars and training courses on safe working practices. N.C.R Biochemical is expanding the exhibition with an experienced supplier specializing in water treatment and chemicals for paper production. PaCon is the only independent company of its kind to offer optimization and measurement of doctor blade contact pressures and profiles. PM Services + Doctoring offers comprehensive, bundled expertise in all web-guiding processes and in the optimization of roll and cylinder surfaces. Techpap has expertise in laboratory equipment and online sensors. PTS supports research institutions and companies in all industries in the development and application of modern fiber-based solutions. Trimble presents Wedge, a powerful data mining software that can be used to improve the efficiency of industrial plants. Villforth has been successfully manufacturing screens for forming, dewatering, transporting, pressing, filtering, and embossing for 150 years. Wolf Heilmann is showcasing a wide range of products for paper production that it represents. X-Rite systems are used worldwide for color measurement and control for paper and board.

Paper Mill Büttenpapierfabrik Gmund – “A different approach to paper” from Lake Tegernsee

Holger Baumgartner · Büttenpapierfabrik Gmund GmbH & Co. KG · Gmund / Germany

The paper mill Büttenpapierfabrik Gmund is a paper manufacturer based in Gmund at lake Tegernsee, south of Munich, and employs around 130 people.

The paper factory is known for producing design papers and natural papers as well as finished paper products. With an export quota of 75%, it supplies customers in approximately 80 countries.

The paper mill is known worldwide for its gold-finished papers, which are used to make the envelopes for the Oscar Academy Awards.

The presentation provides a detailed look behind the scenes of paper production and deep insights into all production processes. The journey from raw material to valued Gmund paper begins with the grinding and dyeing of the pulp, then continues in a wet and hot ride over the belts and rollers of the paper machine, winding its way through embossing calenders and large cutting machines before continuing by hand. Each sheet is checked, carefully packaged, and then shipped from Gmund all over the world.

First methanol-producing and CO₂-free paper mill

Claes Fredriksson · Liquid Wind AB · Gotheburg / Sweden

Engelbert Schrapp · Siemens Energy AB · Stockholm / Sweden

The presentation will begin with an explanation of the status of projects already underway and the technological background of the process. Based on the actual CO₂ emissions of a modern paper mill, a project will then be presented showing how a paper mill can convert the CO₂ it produces into methanol and thus into CO₂-neutral fuel. The model presented offers clear targets for the effort required and the sustainability effects that can be achieved.

Increasing fiber efficiency & plant performance in brownfield and recycling applications

Stefan Wessel · Landbell GmbH · Mainz / Germany

Ulrich Neumüller · Repulping Technology GmbH & Co. KG · Schiltberg / Germany

Cornelia Beyer · Repulping Technology GmbH & Co. KG · Schiltberg / Germany

The global paper industry is navigating a period of profound transition. Stakeholders worldwide are under growing pressure to reduce energy demand, secure fiber resources, and manage increasingly heterogeneous recovered-paper streams. Hard-to-recover paper grades, regional variations in collection quality, and the push for higher recycling quotas challenge conventional pulping lines and fiber recovery systems.

At the same time, brownfield mills must raise efficiency within existing infrastructures, often under space, energy, and investment constraints. In this environment, the repulping process becomes a decisive factor: its performance dictates fiber yield, contaminant removal, overall process stability, and energy costs.

Repulping Technology will address these current challenges and their implications for the paper and recycling industry. The presentation will outline an approach to optimizing the repulping process as a practical exploration of what measurable benefits it brings and why they matter.

We will discuss key applications in both recycling and brownfield contexts, focusing on:

- Handling of hard-to-recover papers, multilayers, and variable input materials,
- Achieving higher fiber yield and energy efficiency,
- Increasing operational robustness and uptime through flexible system design, and
- Insights from an existing recycling plant in Austria, alongside retrofit applications for brownfield paper mills and current projects.

By examining operational outcomes, the presentation will outline where and when investment in advanced repulping delivers a tangible return, technically, energetically, and economically. Participants will gain a clear picture of how modern repulping can act as an enabler for circularity, stability, and resource efficiency across the evolving paper value chain.

AI system for recording and evaluating waste paper intake and optimizing corrugated base paper production

Franz-Joseph Nicolaus · Model AG · Niedergösgen / Switzerland

Hendrik Kolvenbach · UpCircle Technology AG · Zürich / Switzerland

As part of the digitization of paper production, a project was carried out at Model AG's sites to record and analyze the quality of waste paper using AI.

The quality of the waste paper delivered is recorded at the Weinfelden and Niedergösgen sites by the internal logistics department as the goods are received. In practice, it has so far been difficult to implement a uniform and comprehensive system for recording the quality of the waste paper delivered. Significant fluctuations in the quality of waste paper hamper production, preventing the full potential from being attained.

UpCircle Technology AG has experience with image capture and AI-supported analysis of waste bales. This technical expertise was applied to the delivery and use of waste paper in a joint project with Model AG.

During the project period from January to July 2025, waste paper deliveries and the loading of pulper belts were almost completely captured and evaluated visually. An AI was trained with the data and is now able to assign batches and individual bales to a DIN 643 grade with high precision. In addition, the proportion of brown paper in the delivery and the individual bale is recorded. In tests on the paper machines, a positive effect in terms of color consumption and strength was achieved with the help of this measured value.

The surface detection of plastic films in waste paper also enables a supplier-related evaluation of disposal costs and can be used as a basis for predictive control of pulper disposal.

In the future, the data obtained will simplify quality checks and can be used for automatic waste paper quality control and complaints management. The waste paper feed to the plants is coordinated with production and should enable improvements in energy, fiber yield, ink, and starch costs.

Strategy „Green Paper“ – Press rebuild of the Kehl paper machine 1

Arne Schaper · Koehler Kehl GmbH · Kehl / Germany

Tobias Kolhagen · J.M. Voith SE & Co. KG · Ravensburg / Germany

The paper industry worldwide faces the challenge of producing more sustainably and significantly reducing its CO₂ footprint. With its company-wide “Green Paper Strategy,” Koehler Paper is pursuing the goal of gradually achieving CO₂-neutral paper production at all its sites. To achieve this, the company relies on a holistic approach that encompasses both technological innovations in paper machines and substantial investments in renewable energy sources. In addition to expanding wind power, solar installations, and a biomass power plant, targeted modernization projects at the production facilities play a central role.

A key element of this strategy is the conversion of existing press sections to modern shoe press technology. Following the successful rebuilds of PM5 and PM4 at the Oberkirch site, the press section of PM1 in Kehl was converted from a DuoCentri II press to a DuoCentri NipcoFlex press with innovative shoe press technology by Voith in early 2025. The aim was to significantly increase post-press dryness, thereby reducing steam consumption in the pre-dryer section by an average of 31% and in the overall plant by around 20%. These measures led to a significant reduction in CO₂ emissions at the Kehl site and make an important contribution to Koehler’s climate targets.

In addition to improving energy efficiency, further key enhancements were achieved: Plant flexibility was significantly increased, as new paper grades with basis weights starting at 30 g/m² can now be produced. At the same time, paper quality was further optimized. The new transfer concept, along with the significantly reduced number of web breaks resulting from the rebuild, contributed substantially to increased plant efficiency. Furthermore, occupational safety was further enhanced by introducing a full cantilever press frame.

The project was implemented in close cooperation between Koehler Paper and Voith. Thanks to careful planning and preparation, the rebuild was completed within a short downtime, allowing production to resume quickly. All targets regarding energy efficiency, product quality, plant flexibility, occupational safety, and operational reliability were fully achieved.

With the successful rebuild of Kehl PM1, Koehler Paper has set another milestone on its path to CO₂-neutral paper production. The project serves as a prime example of how innovative machine technology, sustainable energy supply, and close collaboration between Koehler and Voith can jointly enable decisive progress towards climate neutrality—setting new standards for the entire industry.

Optimization of a double shoe press

Phillipos Vrizas · Progroup PM3 GmbH · Sandersdorf-Brehna / Germany

Peter Resvanis · Progroup PM3 GmbH · Sandersdorf-Brehna / Germany

Initial situation:

Since commissioning, the existing double shoe press on PM3 had been showing increased wear and associated dewatering problems, which led to increased breakages, increased downtime, and higher maintenance costs. The wear was evident on both the Nipco-P and the Nipco-Flex due to the frictional connection. While the initial results for the Nipco-P rolls showed polygonality, the Nipco-Flex rolls showed enormous wear on the load-bearing elements and the associated seals. The service life varied between 3 and 9 months, which was significantly below the target of 18 to 24 months.

Analyses & methodology:

Together with the OEM, various analyses (e.g. material analyses) and measurements (e.g. concentricity measurements, vibration analyses, drainage calculations) were carried out, and modifications and adjustments to operating modes were implemented to ensure improved operational safety. The sum of all actions and results contributed to the joint 8D analysis, which revealed that the polyurethane coating was unevenly worn away by the scraper blade, leading to local wear in the CD and in the circumference of the roll cover. This development was also reflected in the appearance of the dewatered paper web at the inlet of the pre-dryer section in the form of damp spots and impaired runnability.

Further steps:

The comprehensive analysis enabled a clear definition of the measures and their prioritization in terms of time, taking into account the implementation period. The focus of the immediate measures was on operational safety combined with protective measures during the planned maintenance shutdowns. This was followed by an interim solution in the form of a new composite cover to extend the running time in a scraped operating configuration and bridge the implementation period of a final upgrade stage with a G-Flex cover.

Modern drum pulping technology for recycled fibers

Oscar Streubel · Model Sachsen Papier GmbH · Eilenburg / Germany

Petteri Riivari · Valmet Technology Oy · Inkeroinen / Finland

When investing in recycled paper production, one of the key decisions is to go for a vertical pulper station or a drum pulper. The known benefits of drum pulpers are gentle slushing making cleaner pulper accept with less stickies, low specific energy consumption and easier maintenance with reduced cost. The realization of the drum pulper benefits require more capital for investment, but the lower lifetime costs will lead to a positive payoff. Model Group investing in Sachsen OCC-production, selected Valmet Drum Pulper technology, two 32m drum pulpers located in an existing building, for 2000tpd capacity.

Valmet OSR Drum Pulper technology is based on three major principles, that differ from the other similar solutions in the market. First, the lifter design and how it can be manufactured, creates more open area and volume for slushing and screening. Second, screening is divided in two stages, creating fine and coarse accepts. Third, early removal of dissolved fibres enhances screening section to continue slushing of disintegrated material.

Two-stage screening and two pulp fractions open further possibilities for OCC-line. Fine fraction is cleaner than usual pulper accept, and it creates the potential to simplify the OCC-line, for example by bypassing the coarse screening. The coarse fraction needs full treatment, but it assures also high material efficiency and low fibre loss. Combining innovations in slushing and the potential of screening, the drum pulper can be made shorter than traditional drum pulper types.

Two drum pulpers give flexibility for production. Instead of one big drum pulper, each drum can be adjusted according to demand. Drums can run different raw materials, and the drums own control parameters can be optimized for the raw material properties. At lower pulp demand, one drum can be stopped to optimize the energy used and utilizing the full efficiency of the one in operation.

First experiences with a new screening technology at heinzelpaper Laakirchen

Oliver Hunstein · Laakirchen Papier AG · Laakirchen / Austria

Axel Dreyer · J.M. Voith SE & Co. KG · Ravensburg / Germany

Screening requirements have changed tremendously over the last years. Inferior raw material properties with higher levels of impurities for pulp and paper as well as increasing papermaking manufacturing costs, like energy and raw materials, have led to higher demands for more efficient products and to further process optimizations. Therefore, all paper makers must increase their effectiveness in order to compete and be sustainable in the globalized pulp and paper industry environment. Based on this, Voith has developed a new profile basket, called C-bar Vertecs.

In this presentation, the latest results and insights of this novel sorting technology will be shown. This new technology is a result of flow analysis and extensive tests with laboratory investigations. To assess the sticky removal efficiency, both the established Ingede or Tappi methods were used, as well as the more informative NIR method. This also allowed for the analysis of the separation of microsticky fractions.

Several field tests reveal that the new screen basket invention boosts throughput by far over 20% while maintaining or even enhancing the efficiency of sticky and dirt spec separation. This allows current screening sections to handle production constraints such as capacity and separation effectiveness. As a result, production rates are increased without compromising, and potentially even improving, the quality standard. In summary, we have established a new benchmark in screening reliability. The installation of a Vertecs screen basket allows a reduction in energy demand. With increased production by over 20%, the rotor speed remains at its current speed. As a result, the energy used per ton in the screening process is effectively reduced.

Operational Excellence in monitoring refiner processes

Tjerk Boersma · Sappi Maastricht B.V. · Maastricht / The Netherlands

Refiners are often overlooked pieces of equipment, yet they are where the papermaking process truly begins. This presentation focuses not on the choice of fibre, but on the comprehensive monitoring of the refiner itself. We will explore key technical parameters, including:

- Online vibration analysis and no-load accuracy.
- Filling design and its operational influence.
- Filling lifetime prediction and gap measurement.
- Monitoring of pressure, distance, power, and online fibre testing.

By maintaining refiners in peak condition, we eliminate unexpected maintenance issues and quality fluctuations. By integrating various measurements into soft sensors, we can implement advanced predictive controls.

These reliable, science-based inputs provide the foundation for AI-driven predictive maintenance. The result is a significant increase in output and substantial cost savings—all powered by SAPPi's proprietary hardware and software know-how, fully integrated into the DCS.

Combined analysis of process data and product property measurements to reduce product variability

Hannes Vomhoff · Holmen Board and Paper · Iggesund / Sweden

Process variation is an important obstacle for obtaining uniform product quality. In today's paper and board machines, a lot of data is available. The process conditions can be obtained from the DCS system, while a lot of information on the product properties is available from the QCS system and the automated property measurement devices.

By performing data filtering and statistical calculations on data from the different data sources, custom-made KPIs can be continuously determined. These KPIs allow for the detection of critical process conditions leading to extreme streakiness of the CD profile. KPIs derived from process data and the automated product property measurements can also be combined. This allows for a better understanding of the relationship between process conditions and properties, which leads to a lower product variability.

Different examples of this type of process optimization work are presented. One example deals with an on-line streak analysis based on the QCS data. Another example, based on the Tappi TIS 1101-01 analysis of property variation, is used to continuously quantify and separate the MD, CD, and residuals of the variation. A third example shows the link between coating grammage CD profile and the achieved surface roughness CD profile.

Operational water risk management at WEPA: the Cassino plant as an example

Tim Carstens · WEPA SE · Arnsberg-Müschede / Germany

The European paper industry bears a special responsibility for the sustainable use of water resources. This is particularly evident against the backdrop of increasing climate-related conflicts over water use: in recent years, thermal power plants in France and Italy have had to reduce their output on several occasions because it was no longer possible to extract sufficient cooling water from rivers during heat waves. Against this backdrop, one key question is becoming increasingly important: How can we secure water resources while remaining competitive? As a water-intensive company, the WEPA Group goes beyond traditional site optimization and takes a holistic approach to water stewardship.

As part of its 2030 sustainability strategy, WEPA aims to reduce its operational water risk to a low level and not allow any sites with a high risk category. This is based on a systematic risk analysis using the WWF Water Risk Filter, supplemented by context-based water targets for each catchment area. The measures range from technological innovations and organizational approaches to cooperations along the value chain – with clear ecological and economic advantages: lower water consumption means lower costs, greater resilience, and long-term site and production security.

The Cassino plant in southern Italy shows how this approach works in practice. The BlueWater initiative, launched in 2024, is a major project that not only raises awareness but also delivers concrete results: in collaboration with a local university, a savings potential of over 30% was identified – much of which has already been realized. The result: significant cost reductions, new optimization opportunities, and strengthened risk management.

The experience in Cassino makes it clear that operational water risk management is not a mandatory exercise, but a strategic lever for sustainable, economical corporate management. Water stewardship means taking responsibility – for water as a resource, for society, and for the future viability of the company.

New sack kraft paper machine for the Mondi Štětí mill

Mariusz Grochowski · Mondi Štětí a.s. · Štětí / Czechia

Erich Kollmar · Bellmer GmbH · Niefern-Öschelbronn / Germany

As part of a major strategic project, Bellmer GmbH and Mondi Štětí have successfully planned, installed, and commissioned a state-of-the-art paper machine for the production of sack kraft paper. The presentation highlights the technical implementation, the challenges, and the partnership between the two companies.

The new paper machine, part of a €400 million investment program, is a central component of Mondi's Action Plan 2030 sustainability strategy. With an annual capacity of 210,000 tons of sack kraft paper, it meets the growing demand for flexible, paper-based packaging solutions.

As general contractor, Bellmer took on the complete delivery and integration of all main components, including:

- Turbojetter headbox for optimal fiber distribution
- TurboPress for maximum dry content
- Energy-efficient constant section
- Automated winding technology and reel slitter
- DCS (Distributed Control System) and QCS (Quality Control System) for end-to-end automation

The presentation shows how precise system integration, innovative technology, and close cooperation enabled on-schedule commissioning within just 24 months – a technological milestone and the largest single order in Bellmer's history.

The speakers will provide insights into:

- The technical features of the Bellmer TurboLine
 - Project coordination and interdisciplinary teamwork
 - The significance of the project for Mondi's sustainability goals
 - The role of automation and digitalization in modern paper production
-

Lightweight containerboard – Evolving with Holmen Elevate and paper machine 52

Jan Andersson · Holmen AB · Norrköping / Sweden

Piotr Sokolinski · Andritz AG · Graz / Austria

Holmen Board and Paper has made a bold entry into the packaging market with a fresh fiber-based lightweight containerboard that sets new standards in sustainability and performance. To support this innovation, Holmen invested in a major rebuild of Paper Machine 52 (PM52) at the Braviken Mill, aiming to boost production capacity and further improve product quality.

The rebuild, executed by ANDRITZ, introduced the patented PrimeForm TW shoe blade gapforming technology, enabling optimal MD/CD strength ratios, superior formation, and efficient dewatering. With this technology unique strength characteristics for containerboard - specifically for SCT improvement - have been achieved. The new PrimeFlow AT headbox enhances jet quality and fiber orientation, while the upgraded press section improves dryness, energy efficiency, and runnability.

With the launch of Holmen Elevate—the lightest kraftliner on the market—Holmen now offers a product range available in 72, 82, and 92 gsm that combines excellent printability, food contact certification, and one of the industry's lowest CO₂ footprints. This new product line reflects Holmen's continued commitment to smarter, more sustainable packaging.

Supported by ANDRITZ's comprehensive engineering and start-up services, the PM52 rebuild has not only delivered strong operational results but also enabled Holmen to redefine lightweight kraftliner. This presentation will share updated performance data, customer feedback, and insights into how Holmen Elevate is shaping the future of fiber-based packaging.

Pilot project at Model Sachsen Papier with "Paper Machine Drives Performance"

Dirk Schwarze · Model Sachsen Papier GmbH · Eilenburg / Germany

Niko Lahtinen · ABB AG · Mannheim / Germany

A particular highlight of the conversion was the installation of an innovative digital solution: ABB implemented the new "Paper Machine Drives Performance" system for paper machine drives as a pilot project. This technology, which was installed in close cooperation between our local experts and the ABB drive team in India, enables comprehensive monitoring and analysis of the paper machine's drive performance in real time. The system records performance indicators such as torque, speed, and load distribution, as well as productivity metrics and reliability parameters. With the help of advanced analysis tools and a user-friendly interface, Model Sachsen Papier can now optimize not only the efficiency of the paper machine, but also minimize downtime and perform predictive maintenance.

Improving cartonboard quality by installing a curtain coater on board machine 3 at WEIG in Mayen

René Kaptain · WEIG Group · Mayen / Germany

Martin Taxacher · Valmet Technologies Oy · Järvenpää / Finland

The fierce competition forces paper and board producers to continuously optimize their processes and find ways to improve the quality of their products. The curtain coating technology ensures homogeneous coating layers by eliminating streaks and unevenness that typically compromise the printability and visual appeal of the board.

The curtain coater enables the application of either single or multiple extremely thin or thick uniform layers all within one coating station. The flexibility of the technology offers several advantages over conventional coating methods, while being equally suitable for both board and paper machines, regardless of the machines' speeds and widths. The curtain coating slide die has an expandable design, allowing upgrades of the coating station by adding coating layers which gives a possibility for a wide end product assortment.

A single-layer curtain coater in the pre-coating process ensures uniform and consistent coverage, which is a critical advantage when working with recycled fiber. This approach delivers financial benefits by enabling a higher yield during fiber cleaning: the reject ratio can be decreased, and more impurities can be tolerated in the accepted fiber because the curtain effectively covers them.

Board quality remains stable because the curtain coater as a pre-coating station continuously applies the desired amount of coating in both cross and machine directions. In contrast, conventional methods require frequent adjustments to the coating amount, which inevitably leads to quality fluctuations.

Efficient boundary air removal and a fully shielded coating process ensure uniform and stable curtain coating while the contactless coating application method delivers excellent runnability and efficiency over a wide operation window. The curtain coater comes with a sophisticated coating color supply system including degasser ensuring the 100% airless coating.

In December 2024 WEIG Group started up a state-of-the-art curtain coating station on their board machine KM3 in Mayen. This investment replaced an old air knife coater and has enhanced the quality of the board by improving coating coverage and reducing streakiness of the coating. In this presentation the results from the first year of curtain coater operation are presented as well as experiences from the start-up.

Experience with a closed recycling loop for felts

Anne Klaschka · J.M. Voith SE & Co. KG · Heidenheim / Germany

Recycling is an important aspect of Voith Paper's sustainability strategy, which aims to conserve resources and reduce the carbon footprint.

Our goal is to establish a closed material cycle for press felts, thereby keeping high-quality materials in circulation and making an important contribution to environmental protection.

As a full-line supplier, we are committed to integrating the cradle-to-cradle principle. With the "Design for Recycling" concept, we ensure that recyclable materials are used throughout the entire product development and manufacturing process. To reduce the considerable carbon footprint of new polyamide, which is derived from petroleum, Voith has started to use chemically recycled polyamide materials.

Voith works closely with Aquafil S.p.A., a pioneer in PA6 recycling, to reprocess used felts. In the process, used PA6 is efficiently cleaned in several stages using depolymerization and converted into new high-quality PA6 granulate (under the brand name ECONYL). The original properties of the material are fully retained, which means that Infinity+Green felts can be recycled repeatedly in a closed loop without any loss of quality.

Advantages at a glance

- Reduce your environmental footprint
 - Enable sustainable procurement
 - Being prepared for legal requirements
-

Energy transformation as a key to profitability at MM Gernsbach

Konstantin Weber · MM Gernsbach GmbH · Gernsbach / Germany

Markus Bohlayer · Path to Zero GmbH · Karlsruhe / Germany

The European paper industry is facing significant challenges: high and volatile energy prices, continuously evolving regulatory requirements, and the high technical complexity of existing production and energy supply systems. At the same time, a wide range of decarbonization options is available—ranging from efficiency measures and electrification to high-temperature heat pumps, utilization of residual materials, renewable electricity generation, energy storage systems, and power purchase agreements (PPAs). These measures compete for limited investment budgets and must be consistently coordinated while taking regulatory constraints—such as grid tariff structures—into account.

The presentation introduces a proven, model-based approach to transformation planning. At its core is a digital twin that represents production and energy supply systems, including their technical, economic, and regulatory interactions, within a mathematical model. Based on this representation, mathematical optimization explores a high-dimensional solution space comprising a large number of technology and operational combinations and identifies robust, total-cost-optimal transformation pathways. The approach enables adaptive planning and systematic re-optimization in response to changing market and regulatory conditions.

As a case study, the transformation planning for MM Gernsbach GmbH is presented. The model includes, among other elements, cardboard production with the drying section represented down to cylinder level, steam and condensate systems, coating processes and heat recovery, as well as the complete energy supply system and relevant residual material streams. The analyzed solution space comprised, among others, on-site renewables (hydropower, wind, and photovoltaic systems), power purchase agreements (PPAs), battery and high-temperature thermal storage, electric boilers, high-temperature heat pumps, biomass and residual material utilization, as well as operational optimizations such as cascade systems, steam turbine operation, and radiant drying.

The results demonstrate that economic and environmental objectives in the paper industry do not have to be contradictory but can be aligned through a holistic portfolio of measures. The digital twin enables MM Gernsbach to

- holistically assess measures and their interactions under different future scenarios,
- derive resilient strategies for optimizing energy costs and emissions, and
- respond flexibly to market and regulatory changes and make well-founded investment and operational decisions.

The digital twin calculations thus provide a robust and transparent decision-making basis for the further development of strategic investment and operational strategies at the MM Gernsbach site.



Pictures of the 33rd International Munich Paper Symposium 2025 · Photographer: Helgi Seemann

CULTURAL EVENT



Circus Krone

Wednesday, 18 March 2026

Departure at 18:30, Start of the show at 19:30

This year's Cultural Evening is a visit to the world-famous Circus Krone in Munich. The traditional Circus Krone invites you once again to an international top-class programme in the legendary Kronebau during the current winter season. In the heart of Munich, the audience can look forward to an exclusively compiled production that combines the best of modern and classical circus art.

In the approximately 150-minute show, the world's largest circus company presents a top-class mix of:

- **Spectacular artistry:** world-class artists and award-winning newcomers provide thrills and goose bump moments.
- **Animal elegance:** fascinating animal performances and great dressage artistry are an integral part of the circus's tradition.
- **Humour & poetry:** likeable clowns and poetic interludes provide moments of laughter and dreams.

In 1905, a dream came true in the bustling heart of Munich. The Krone brothers, two enterprising brothers, had a vision of a permanent circus facility – a place of wonder and artistry. Thus, Circus Krone was born, not as a nomadic tent, but as a majestic brick palace suitable for kings and audiences alike.



Melanie Chy and the art of balance on wheels · Photograph by Sean Nelson. © Circus Krone



A look inside the permanent circus building. © Circus Krone

For over 100 years, the Kronebau has been a fixture of entertainment in Munich. This winter, Circus Krone is once again keeping the magic of the circus ring alive and thrilling generations of audiences. The spectators are treated to an experience that captivates above all with one thing: genuine emotions and live magic you can touch.

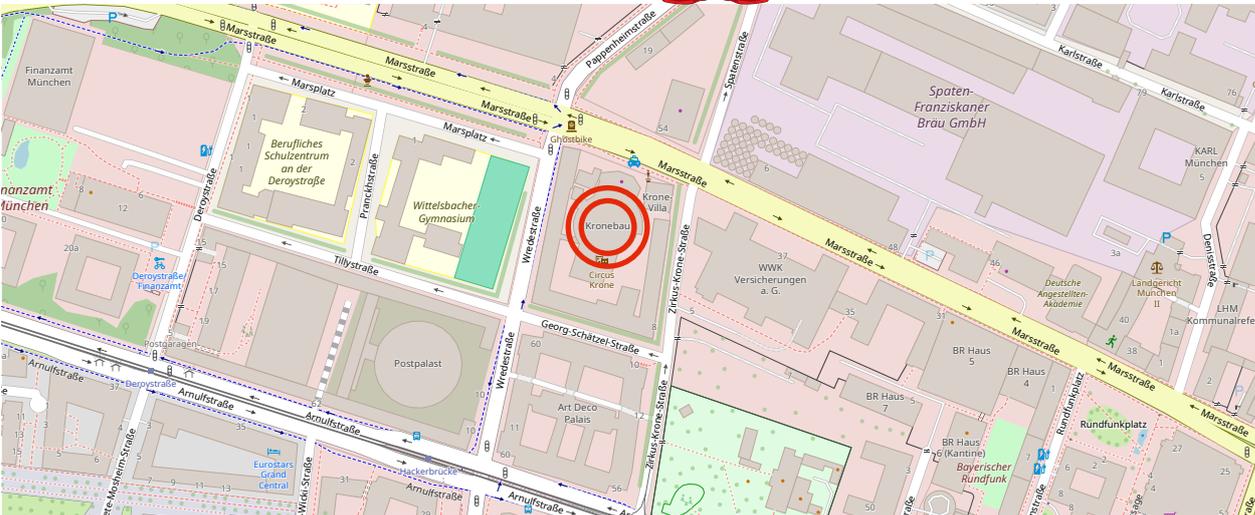
Details

- 18:30 Bus departure from the conference hotel
- 19:30 Start of the show
- Event duration: approx. 2,5 hours



Event Location

CIRCUS KRONE-BAU MÜNCHEN
 Marsstrasse 43
 80335 Munich
 Germany
 Tel. +49 (0)89 545 80 00
 info@circus-krone.de
 www.circus-krone.com



Map of Circus Krone in Munich. The red circles mark the location of the event.

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EXCURSIONS

Excursion I

Paper Mill Büttenpapierfabrik Gmund

on Thursday, 19 March 2026 starting at 09:00

Mangfallstraße 5
83703 Gmund am Tegernsee
Germany

Internet: www.gmund.com

Since 1829, Gmund Papier has been producing high-quality design and fine papers, which are continuously developed to ensure the highest quality. The papers are developed and manufactured with the utmost care and passion at the company's headquarters in Gmund am Tegernsee. Sustainability is firmly anchored in the corporate culture. Gmund relies on ecological processes, renewable raw materials and state-of-the-art technologies to produce papers with a special aesthetic and natural feel. In doing so, Gmund always remains true to its principles: exceptional quality combined with sustainable production methods.

As a modern industrial company, innovation, speed, flexibility and availability are Gmund Papier's particular strengths. For customers, this means a range of over 100,000 different types of paper. Different textures, colours and materials offer almost unlimited possibilities for brand communication. Gmund papers are ideal for high-quality packaging, company brochures, cards and many other applications.

Gmund Papier is more than just paper – it's about the experience and the impact our papers convey. By choosing Gmund Papier, customers have the opportunity to design their communications in a unique way and achieve lasting success.

Programme

- 09:00 Departure from the main entrance to The Westin Grand Munich Hotel
- 10:15 Arrival at the mill
- 10:30 Welcome and company presentation
- 11:00 Guided tour through the paper mill
- 12:15 Invitation to a snack
- 13:15 Return to the conference hotel
- 14:45 Planned arrival at The Westin Grand Munich Hotel

Travel time approx. 60 – 80 minutes

Distance approx. 49 km

A bus to the Munich central railway station and the Munich airport (MUC) will depart at 15:00 from in front of the main entrance of The Westin Grand Munich hotel.

Excursion II

BVG Bauer-Verfahrenstechnik-GmbH

on Thursday, 19 March 2026 starting at 09:15

Gewerbering 12
86926, Greifenberg
Germany

Internet: www.bvg-gr.de

BVG Bauer-Verfahrenstechnik-GmbH was founded in 1984 in Greifenberg, Germany, by Dr. Jochen Bauer. For more than 40 years, BVG has been developing innovative process engineering solutions for the application of chemical additives in the paper industry, continuously setting new standards in efficiency, economic performance and product quality. A key focus of BVG's activities lies in so-called "in situ" processes, where chemical additives are produced directly within the paper mill.

In addition to classical process engineering systems for the storage, preparation and dosing of all chemical additives used in the paper industry – in both solid and liquid form – BVG acts as a full-scope system supplier, delivering tailor-made, energy-efficient and low-maintenance solutions for new installations, revamps and existing plants worldwide. A particular emphasis is placed on continuous, fully automated processes, which enable savings of up to 90% in energy, raw material and operating costs compared to conventional batch processes, while ensuring highest product consistency, maximum yield and outstanding process reliability. Furthermore, BVG is increasingly active in the fields of fresh water and wastewater treatment, filtration and separation of media used in paper manufacturing. These activities expand BVG's portfolio into a holistic solution competence covering the entire value chain – from raw material preparation and production processes to sustainable resource management.

BVG stands for German engineering excellence, highest quality standards, strong innovative capability and state-of-the-art automation technology. In addition to the design and manufacture of process engineering machinery and plants, BVG offers comprehensive services including permitting and conceptual engineering, detailed engineering, control system programming, service and maintenance, as well as recurring inspections in accordance with ATEX and WHG regulations.

Today, the company is managed by Tilman Bauer, representing the second generation of leadership, and employs approximately 60 people at its headquarters in Greifenberg, Germany. With subsidiaries in the United States and China, BVG is present in all major global paper markets.

Programme

- 09:15 Departure from the main entrance to The Westin Grand Munich Hotel
- 10:15 Welcome and company presentation
- 11:15 Guided tour through the facility
- 12:45 Invitation to a snack and conversation
- 13:45 Return to the conference hotel
- 14:45 Planned arrival at The Westin Grand Munich Hotel

Travel time approx. 45 – 60 minutes

Distance approx. 49 km

A bus to the Munich central railway station and the Munich airport (MUC) will depart at 15:00 from in front of the main entrance of The Westin Grand Munich hotel.

Excursion III

Hochschule München University of Applied Sciences

on Thursday, 19 March 2026 starting at 09:30

Lothstr. 34
80335 München
Germany

Bachelor Sustainable Materials and Product Design (Degree programme in German)

<http://hm.edu/smp>

Master Paper Technology (Degree programme in English)

<http://mpt.hm.edu>

The Hochschule München University of Applied Sciences (also known as Munich University of Applied Sciences), one of the biggest paper and packaging faculties in central Europe, has been educating paper engineers for over 60 years. Since 2007, the faculty of paper technology offers a bachelor degree in 7 semesters. Since 2004, it is possible to continue after the bachelor with the „Master of Engineering (MEng) in Paper Technology“ which takes 1.5-2 years. All lectures in the master's programme are held only in English, which makes this study course particularly interesting for international students. The excursion provides an overview of the study courses and educational programmes at the Munich University of Applied Sciences, and includes a guided tour around the modern laboratories of the university. The well equipped facilities include a Siemens PC-S7 controlled pilot paper machine and several other interesting machines.

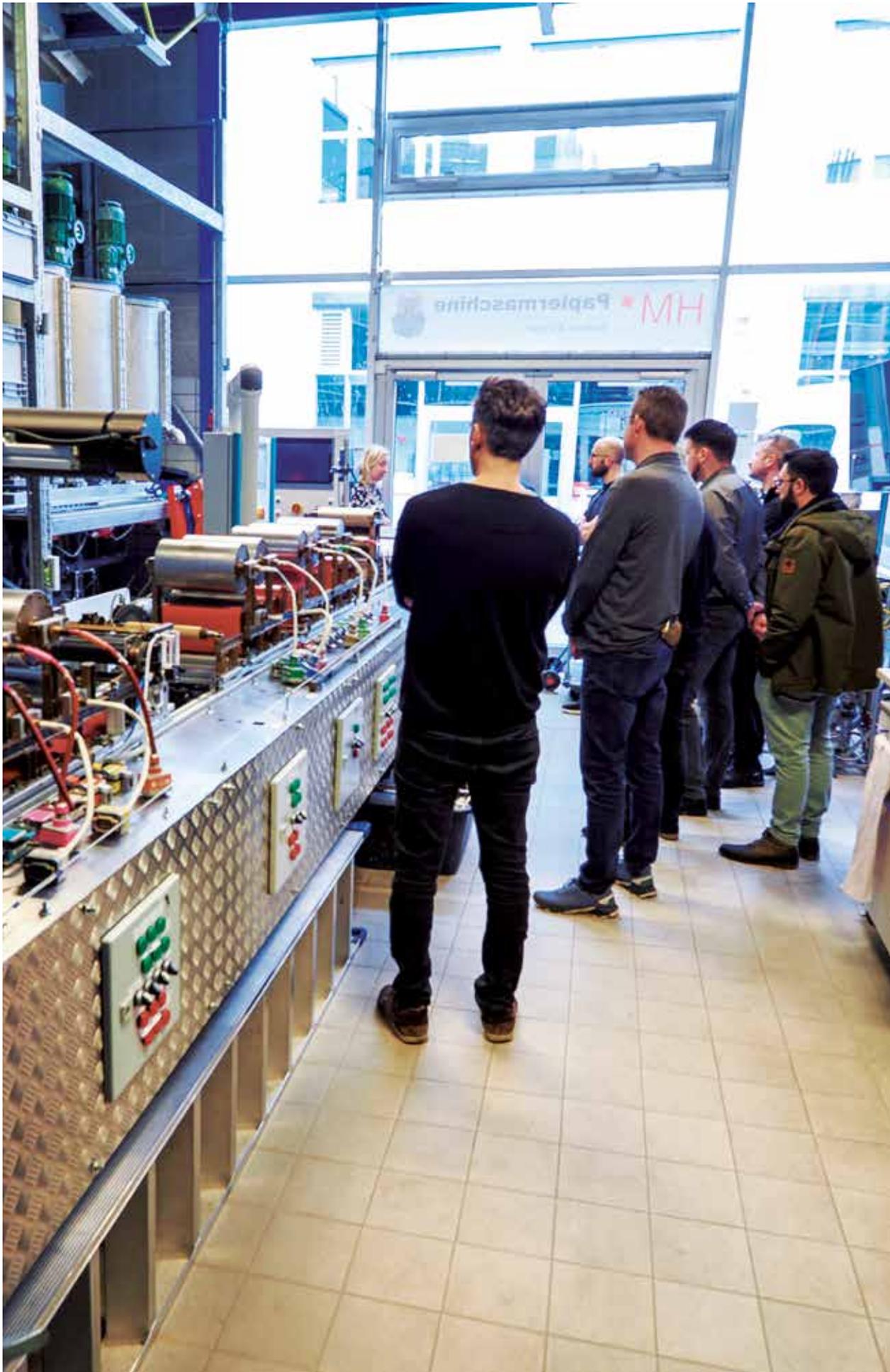
Programme

- 09:30 Departure from the main entrance of The Westin Grand Munich Hotel
- 10:00 Meeting at the Info-Point by the entrance in Lothstr. 34
- 10:15 Welcome and information on the study courses
 - Guided tour through the laboratories
- 12:15 Invitation to a snack
- 13:15 Return to conference hotel
- 13:45 Planned arrival at The Westin Grand Munich Hotel

Travel time approx. 30 minutes

Distance approx. 8 km

A bus to the Munich central railway station and the Munich airport (MUC) will depart at 15:00 from in front of the main entrance of The Westin Grand Munich hotel.



The pilot paper machine at Hochschule München University of Applied Sciences during the excursion of the IMPS 2024.

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Data status: Monday, 9 March 2026



A picture of the 33rd International Munich Paper Symposium 2025 · Photographer: Helgi Seemann



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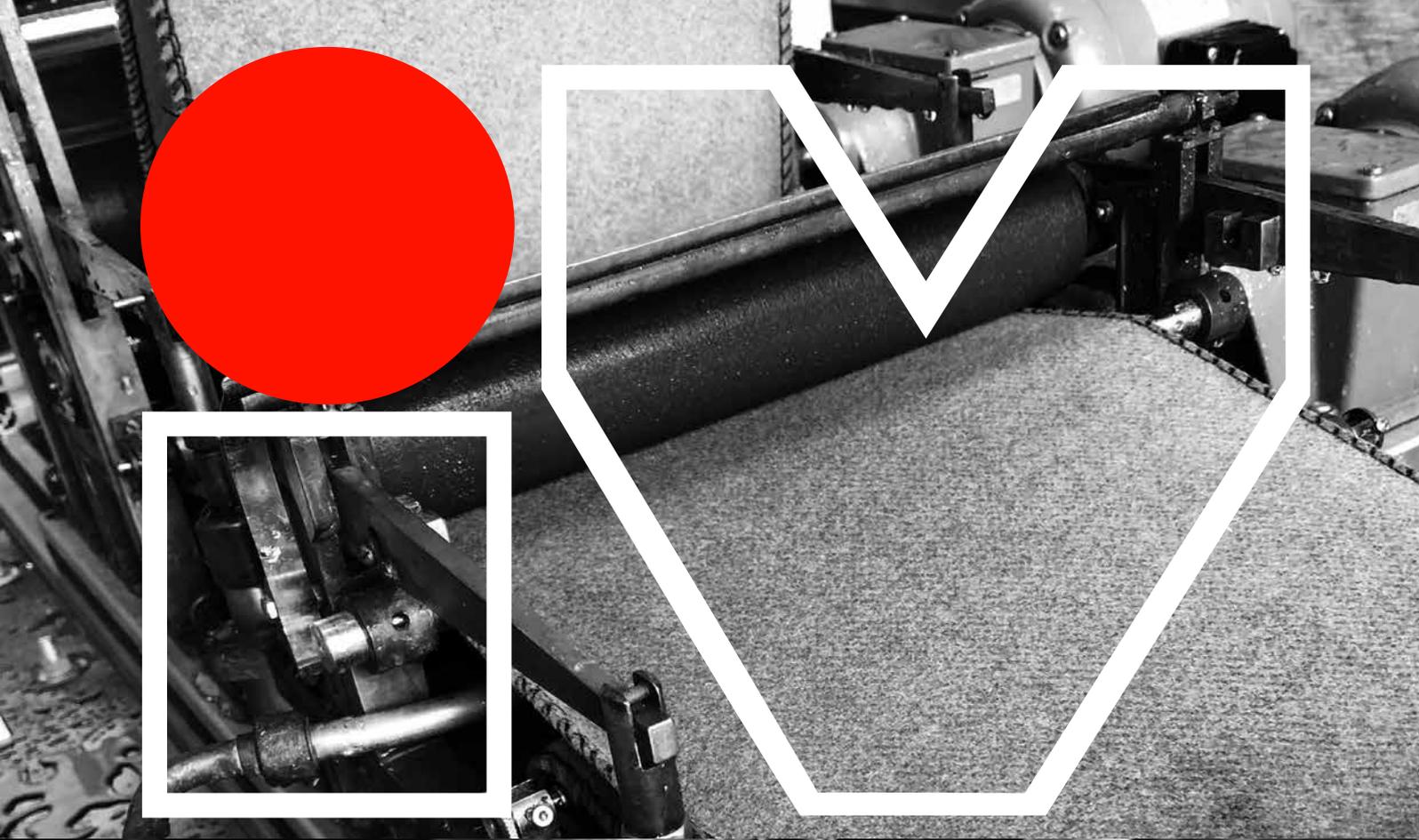
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Internet: www.paper-online.de

NOTES





COMPETENCIES THAT LEAD TO SOLUTIONS

AREC Automatisierungstechnik GmbH specializes in the design and implementation of complex automation tasks as well as digital transformation. The company supports its clients from the initial concept to the realization of the project, providing comprehensive solutions for control and drive technology—ranging from control cabinets to sophisticated software solutions, along with ongoing support and maintenance. Over time, the woodworking industry has become a key business sector, where AREC is entrusted with machine programming and the development of control systems. Additionally, crane systems and a variety of logistics projects are among the company's core competencies.



AREC CONTROLLER SYSTEM: INTRALOGISTICS WITH SYSTEM

AREC develops and programs fully automated conveyor technologies and autonomous transport systems for various facilities. Through virtual pre-simulation, 3D visualization, and optimized material flow logistics, customers can accelerate and perfect their processes.

The AREC Controller System (ACS) is a specialized solution for controlling, monitoring, and optimizing intralogistics processes. This holistic platform is based on a three-tier architecture model, consisting of the system level, module level, and customer level. This modular design allows for flexible adaptation to individual requirements.

The system level forms the technological foundation of the control center and is built on the SMARTBase Core, which supports essential functions such as authentication, database management, and messaging.

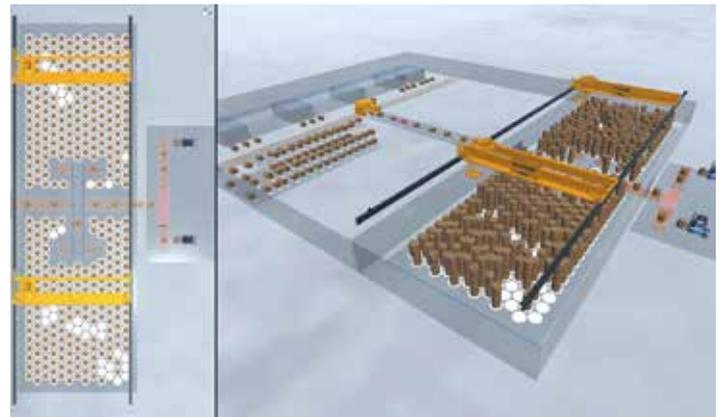
The module level includes all core modules that cover specific tasks and functionalities. These modules are integrated into the control center software according to customer requirements.

The customer level consolidates all customer-related information and requirements. It serves as an interface to seamlessly integrate specific customer needs into operational production and logistics.

AREC SMARTBASE: THE INTELLIGENT FOUNDATION

The AREC Controller System (ACS) is embedded within AREC SMARTBase, which serves as the technical foundation for controlling and managing the entire system. It covers various areas:

- The AREC Material Flow Controller is the key tool for efficient production process and resource management. With flexible strategies and prioritization functions, individual manufacturing requirements can be optimally implemented. Its integration into the AREC platform and the expansion through add-ons enhance the control center's functionality, offering additional possibilities for process optimization, monitoring, and fault management.
- The AREC Warehouse enables the management of various warehouse types and seamless control of transport systems via the AREC Material Flow Controller (MFC). It is the ideal platform for companies looking to digitize and future-proof their warehouse logistics.
- The AREC Forklift Control System offers a highly flexible and configurable platform for managing internal transport processes. It allows for the precise assignment of transport tasks, optimization of vehicle utilization, and intuitive visualization of logistics processes. With its flexible configuration options and seamless system integration, it helps companies increase efficiency, transparency, and productivity.



LOGISTICS INDUSTRIAL INFORMATICS PROJECT

The „Digitalization of Hall I1 at the Linz Industrial Port“ is a prime example of AREC's solution-oriented software development. Material is transported to Hall I1 via freight trains, trucks, and cargo ships. Inside the hall, products are typically lifted from transport vehicles and either temporarily stored in the warehouse area or directly transferred to another transport vehicle. With AREC's support, this process has been significantly optimized.

Each crane is now equipped with hardware that provides sufficient computing power to display a high-performance 3D visualization of up to 10,000 objects in the warehouse. The system allows crane operators to determine their workflow, whether by selecting orders automatically or manually after lifting, repositioning products without an order, or storing new products. By integrating 3D visualization, encoder systems, radar technology, and high-performance scanners, AREC has created a powerful and efficient solution that enhances the logistics operations in the Linz region along the Danube, making them more efficient, transparent, and reliable.

- The AREC Simulation replicates production facilities virtually, supporting companies in the analysis, optimization, and planning of their manufacturing processes. It enables precise forecasting and ensures that changes and strategies can be tested virtually before being implemented in reality. Additionally, the innovative 3D concept allows for virtual training sessions for multiple users—even before a facility has been physically built.

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Engineering Base

Nonstop cooperative plant engineering
One versatile data model from FEED to Operation



Engineering Base

Nonstop cooperative plant engineering

One versatile data model from FEED to Operation

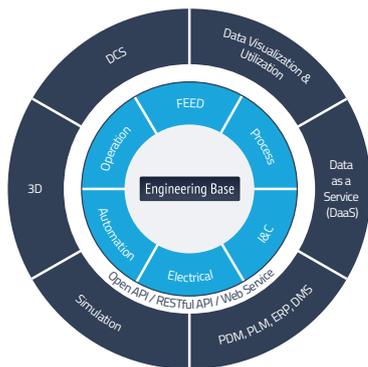
VERSATILE DATA MODEL

No other system has such a comprehensive data model that covers all core engineering disciplines: just one platform from the initial idea of the plant and the feed phase, including scenario handling, to process, electrical engineering and automation and finally to commissioning and maintenance!

ENGINEERING BASE: DATA BACKBONE FOR AI IN PLANT ENGINEERING

Engineering Base provides a reliable and complete data model of assets which makes it the perfect foundation for AI applications. With the AI Diagram Import, graphical data such as PDFs can be automatically converted into structured Engineering Base objects — accelerating migration and creating a clean, connected data model.

The Engineering Advisor adds real-time, AI-driven support through semantic search, system checks, and smart attribute completion, strengthening decision quality and boosting productivity across all engineering phases.



SEAMLESS CONNECTIVITY & OPENNESS

Engineering Base offers unmatched openness for seamless integration with tools like 3D, ERP, simulation, and maintenance systems and many more via web services — bringing all relevant information into one consistent data model. This connectivity also makes Engineering Base the data backbone for major companies to unify engineering and lifecycle data across all partners to accelerate workflows, ensure data quality, and support reliable as-built models.

MODULAR ENGINEERING

Thanks to its interdisciplinary typicals and easy, reliable variant management, Engineering Base achieves a uniquely high level of modularization. This ensures consistent, fast project execution with significantly reduced engineering effort.



The TBP Group, which specializes in projects in the paper and pulp industry, relies on Engineering Base as a central, data-based platform for the integrated planning of complex plants. Supplier data is integrated in a structured manner, changes are tracked transparently, and all disciplines—from process and piping design to EMR and automation—are consistently linked. The result: higher data quality, fewer interfaces, and significantly faster project execution.



The GAW Group, which is active worldwide in paper and cardboard processing, relies on Engineering Base for the integrated planning of P&IDs and flow diagrams as well as standardized, object-oriented data models. Functions such as change tracking, flexible units and standards, and 3D connectivity enable close integration of mechanical and electrical planning. Especially in the quotation process, the reuse of standard modules creates considerable efficiency and cost advantages – from calculation to rapid transfer to the project.



Ing. Jürgen Csiszar, MSc, Major Account Manager

*“Engineering Base - Digital transformation in the paper and pulp industry
AUCOTEC offers a unique software platform that covers the entire life cycle of a paper plant and maps all data / documents. With us, you get a complete digital twin of your plant.”*



Dr. Pouria Bigvand, Global Director Products

“With its structured data model, companies not only enhance their engineering value chain and improve the quality of their assets — with Engineering Base they also establish the foundation for AI. Our Platform delivers structured, consistent data, the key prerequisite for any AI application. This makes Engineering Base unique among engineering tools.”

*Reliable and energy efficient cooling solutions from BM Green Cooling!
From first idea to working solution, we provide the whole project from one hand!*

The Green Tech Company for the Paper Industry

- * **New and innovative Rotary Heat Pump:**
 - ⇒ 100 K Temperature lift, 1,5 –times COP compared to a conventinal heat pump
- * **Waste water cooling with waste heat recovery**
- * **Hightemperature Heat Pumps: Waste2Heat, Waste2Steam**
- * **Natural cooling solutions for paper industry – River water cooling, Spring cooling, Freecooling up to 80% of the year**
- * **Waste2Cool: Low temperature Adsorption chillers already from 45 °C source temperatures**
- * **Energy efficiency projects according to EN 50001 und BAfA**



First idea



Common
conception



Professional plant
engineering



Uninterrupted
commissioning



Sustainable
maintenance
& Support



Tailored cooling and heating solutions for the paper industry!

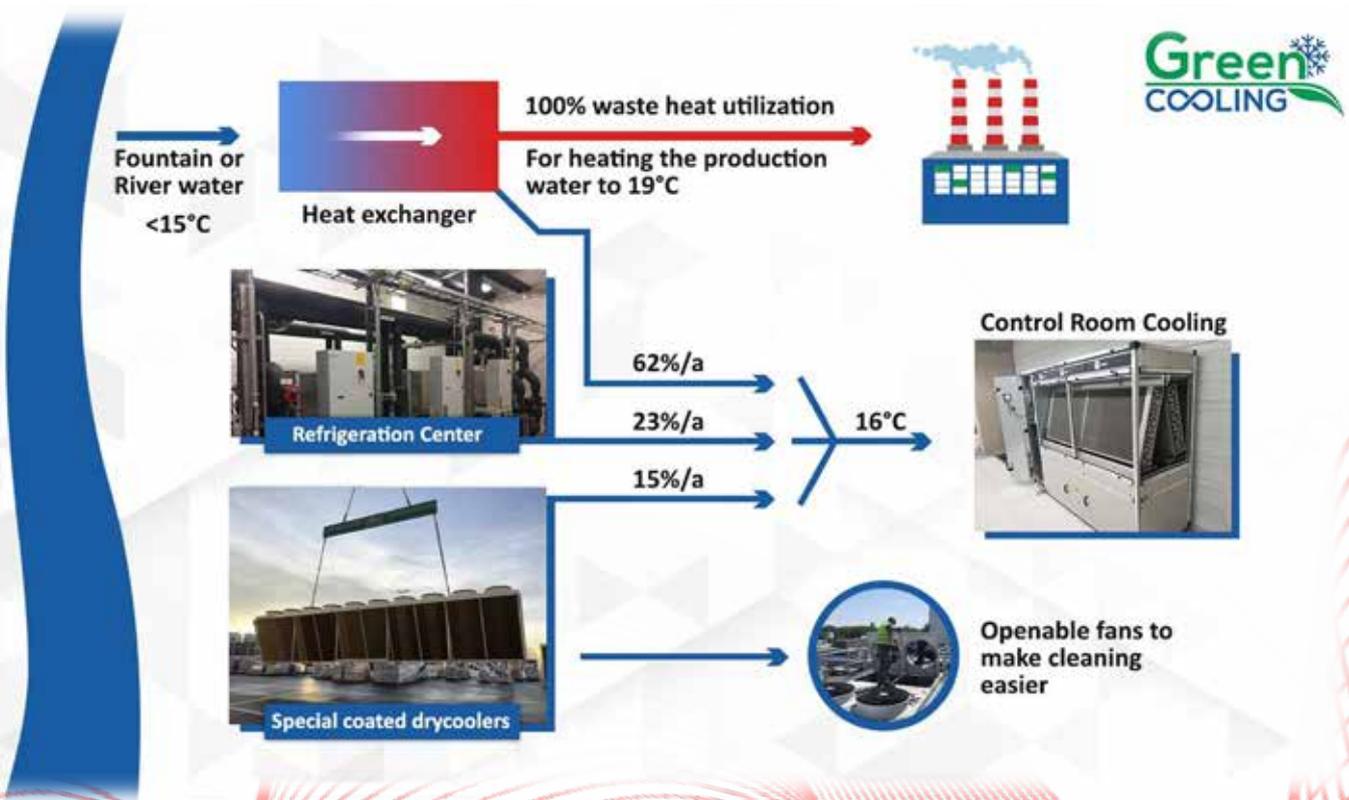
The unique close partner of the paper industry: innovative energy efficient cooling solutions throughout Europe!

BM Green Cooling is the leading provider of energy efficient and reliable solutions for the paper and pulp industry in the areas of cooling (waste water, control rooms and processes) and waste heat utilization. Waste2Heat, Waste2 Steam and Wase2Cool set the tone. Together with the customer we optimize the cold and heat flows within a pinch analysis. Our systems use advanced technologies like adiabatic cooling, natural water cooling, and the latest high-temperature heat pumps to ensure efficient and eco-friendly temperature control for your paper mill.

Our innovative rotary heat pump achieves a temperature lift of >100 K in a single cycle with a COP 1.5 times that of the conventional Carnot process. It uses noble gases instead of conventional refrigerants.

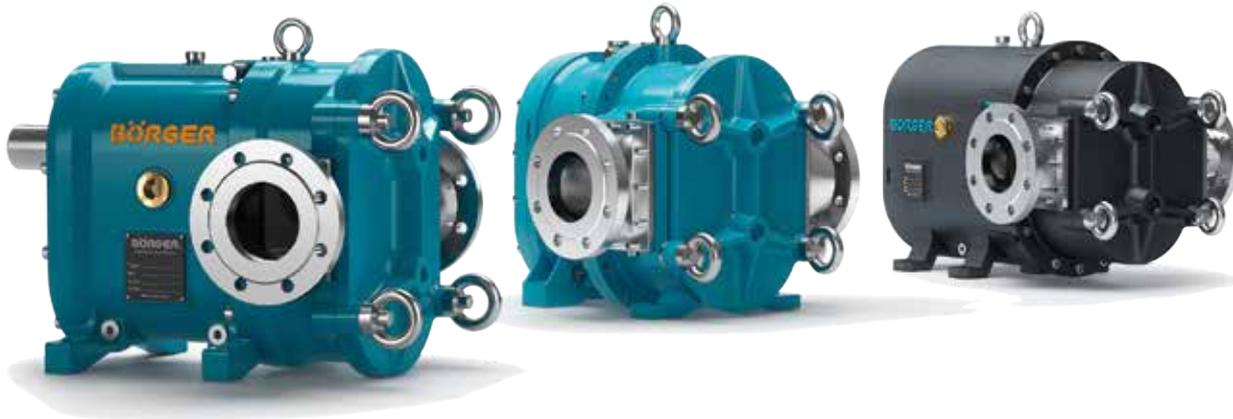
Our low-temperature adsorber with a cooling capacity of up to 500 kW operates with a source temperature of >45 °C to produce chilled water.

Example diagram of natural cooling and mechanical cooling, including heat recovery:



INDUSTRIAL INDIVIDUAL

The better pumps for almost any medium.
Börger Rotary Lobe Pumps:



Why do we know which pump is best for you?

Because we understand your processes. From experience.

Precise design is crucial, especially for demanding applications such as paper manufacturing.

Pumped media such as coating colors, latex-containing liquids, or slurries place high demands on a pump.

Thanks to generous seal chambers and an extensive selection of materials for all components, we can adapt each pump precisely to the respective

medium, application, and location. This makes our pumps ideal for high-temperature applications (up to 300 °C) as well. They can be integrated into any existing piping system.

Whether stationary, mobile or submerged: Börger rotary lobe pumps are manufactured individually for your area of application. As a result, they have low downtime, are durable, and impress with the lowest life cycle costs.

Börger GmbH

- **50 years of experience**
Family-run mechanical engineering company since 1975.
- **440 employees worldwide**
Production and development in Germany.
- **8 subsidiaries worldwide and an international sales network**
Global presence with a strong partner network in over 65 countries.





Perfectly suitable for conveying:

- Coating color
- Calcium stearate
- Paper sludge
- Process water
- Latex
- Lime milk
- Bulking agents
- Starch
- Glue mixture
- etc.



Advantages at a glance:

- + Pumping of media with high solids content
- + Self-priming and capable of running dry
- + Pumping of highly viscous media
- + Large seal chamber
- + Suitable for media up to 300° C
- + High performance with smallest footprint
- + Flow rate adapted to the speed
- + Broad range of materials for all pump components
- + Ease of maintenance at the installation site of the pump without dismantling any pipe or drive systems (MIP®)





ON-SITE DRYING-SECTION-TRAINING

The **paper product training** takes place at your premises considering your shift planning and can directly address local tasks.

Our focus is your experience. We analyze your installed components & systems and compare them directly with best practice. Drawings, cut-away-models, mechanical seal components and a variety of different condensate pick-up shoes will show you the possibilities.

Areas covered in the training

- › Steam and condensate behavior inside drying cylinders
- › Rotary Unions in paper machines
- › Selection of the Siphon System
- › Optimization with Turbulence Bars and Mini-Bars
- › Cooling Systems
- › Steam & Condensate Systems

The Deublin Drying Cylinder rotary model is the highlight of the training where each participant will see and learn about the advantages of stationary siphons installed in our drying cylinder model by studying the condensate behavior while changing production speeds and differential pressure.

The model shows the Turbulence Bar effects, which

- › increase production
- › improve moisture profile
- › optimize paper quality
- › improve paper machine runnability
- › increase heat transfer

by generating „turbulence“ breaking the laminar condensate layer, they reduce energy costs for production.

Deublin Rotary Unions and siphon systems have been successfully used on paper machines worldwide for many decades.

Our dryer-section training as a roadshow informs you about the installation, maintenance and optimization of the rotary union, in order to achieve the optimum production performance and at the same time the maximum service life of the components.

**For operators and machine designers:
Trade fair activities 2026 business unit paper:**

Paper Product Workshops please email for information
International Munich Paper-Symposium, 17.-19. March
Zellcheming-Expo, 16.-18. June, Wiesbaden

**Catalogue download:
Deublin fair data:**

<https://www.deublin.eu/download-catalogues>
<https://www.deublin.eu/fairs>



▼ Learn more about Paper
Energy Optimization (PEO)



DISAB

THE POWER OF VACUUM



From compact portable units to fully centralized systems, DISAB delivers vacuum solutions for every application and environment.

Whether you need flexible on-the-spot cleaning, mobile material handling across your site, or a permanent system built around your production needs — **DISAB has the solution.**

Our portable units keep any workplace clean and safe with minimal downtime.

Our mobile units deliver efficient, operator-friendly performance wherever the work takes you. And our centralized systems are tailor-made to eliminate dust, dirt, and spillage from your industrial environment permanently.

One manufacturer.

Every vacuum solution you need.

One manufacturer.
Every vacuum solution you need.

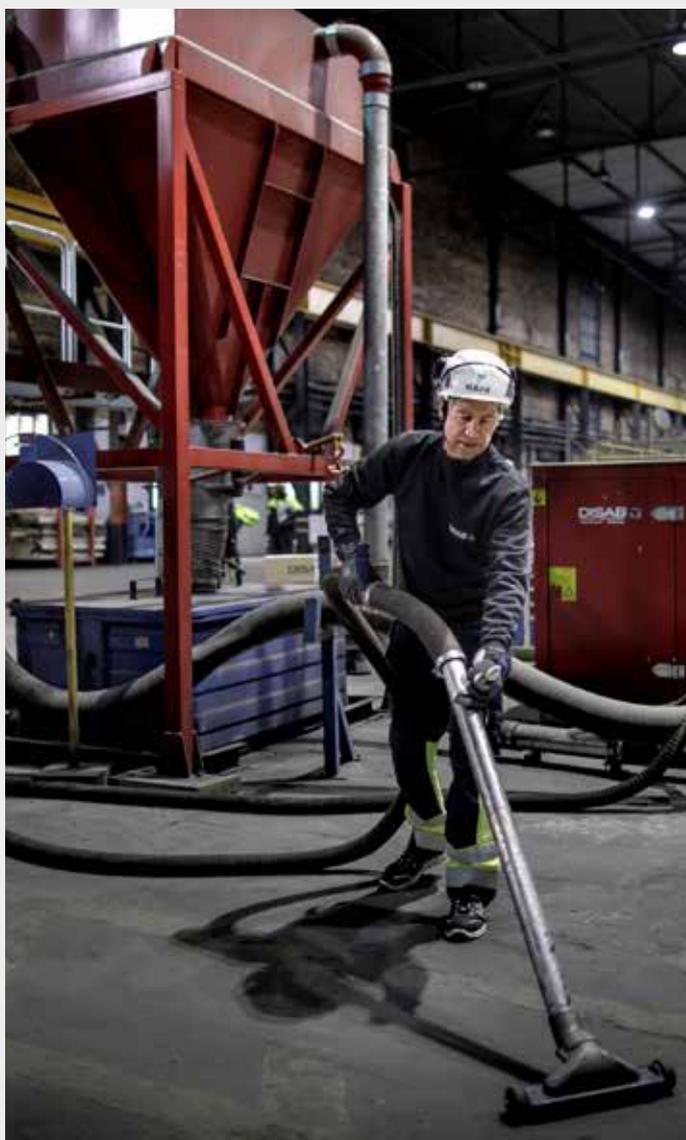
Portable Vacuum Units



Mobile Vacuum Units



Centralized Vacuum Systems



Spare Parts & Accesories

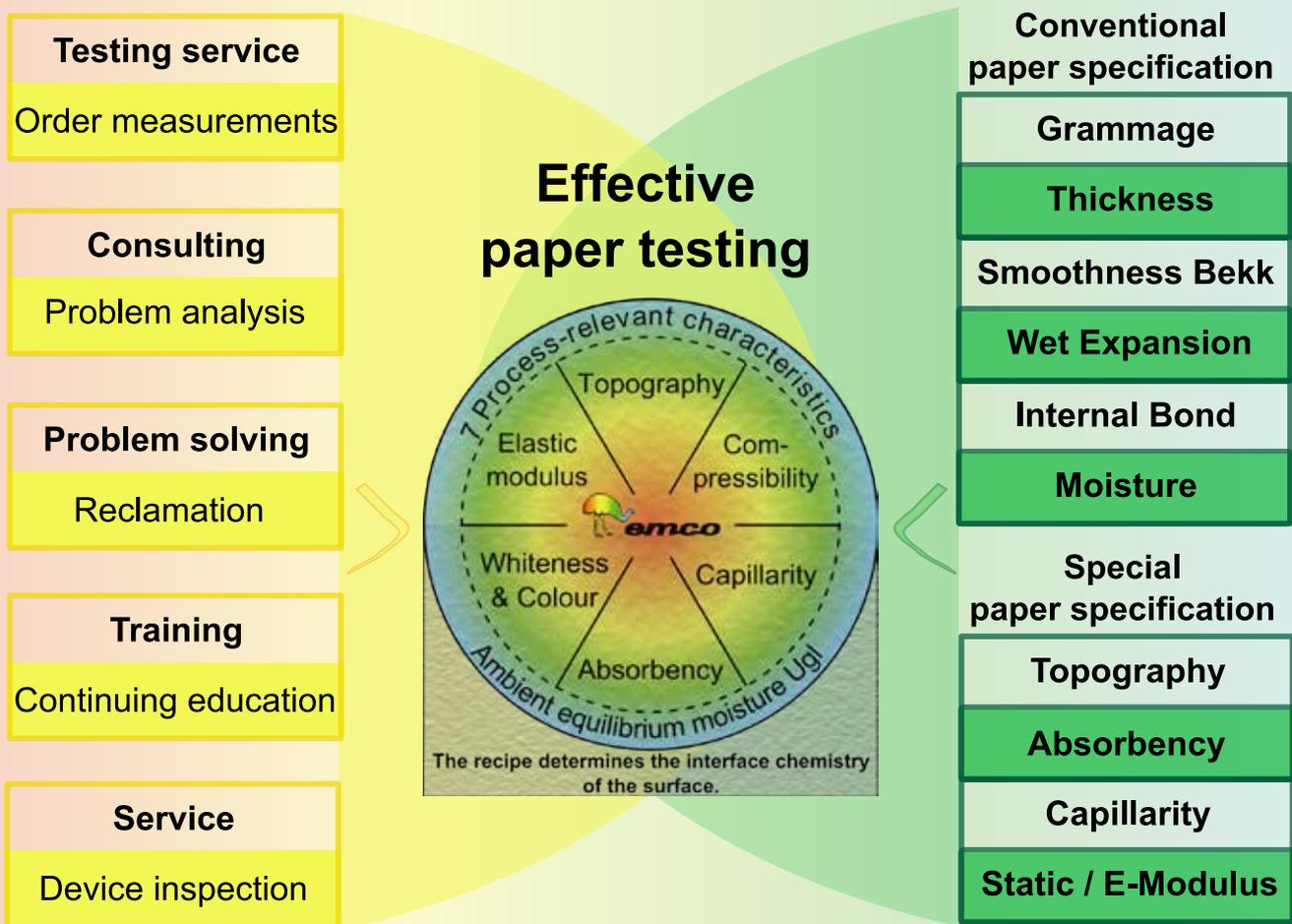


Contact Us

anfragen@disab.com

* More than 30 years emco GmbH *

Identification of the process-relevant characteristics for all applications



emco measuring technologies reduce costs with better quality!



DPM66



Topography



Testing automat



Internal Bond



Wet Expansion

strategical • innovative • sustainable

Automated management system for the determination of water content



non-destructive • mobile • quick
 automated • web data base



Waste paper - AP 500-M6



Pulp sheets - CMM

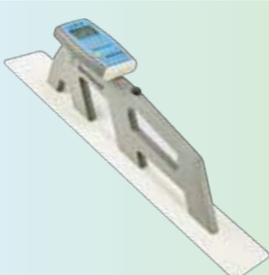


Running roll - MP 5



Paper stack - Dolphin P

Knowing the nature of paper makes paper processing calculable!



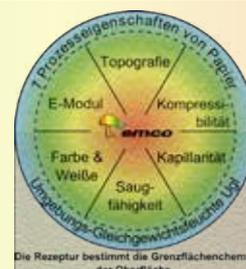
Moisture of PFR



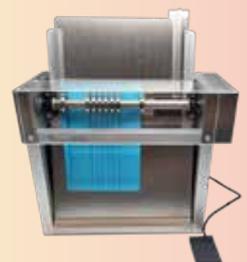
Pulp sheet moisture



Paper moisture



Paper testing



Sample cutter

WET END OPTIMIZATION



FPO | FIBER POTENTIAL ANALYZER ONLINE

Zeta Potential determination online -

for constant process and quality control

fully automatic
and process integrated
with low maintenance effort



FPA touch! & CAS touch! -
smaller & lighter than ever (carry-on-luggage size)

Take out, switch on, start measurement

zeta potential & particle charge measurement in the lab



CAS

CHARGE ANALYZING SYSTEM



FPA

FIBER POTENTIAL ANALYZER



ASH CONTENT ANALYZER | **ACA**

Non-destructive analysis of total mineral filler content

& percentage of individual fillers

accurate
and reliable results
within seconds



typical fillers are calcium carbonate, titanium dioxide, clay/talcum, barium sulfate, iron oxide and many more

FAST DETERMINATION OF PAPER PROPERTIES

TACTILE SENSATION ANALYZER | **TSA**

Objective determination of hand feel, friction

& thermo-haptic of hygienic paper

new optional add-ons
and cutting-edge
design



TURBAIR[®]

vacuum systems

www.everllence.com

Green technology for the paper industry

Compared to traditional systems in the dewatering process, TURBAIR[®] vacuum blowers improve your mill's efficiency with the following benefits:

- Up to 60% energy savings compared to other vacuum systems
- Energy recuperation of up to 80%, optimizing overall consumption
- No seal water required
- Highly reliable system with low maintenance
- Engineered to last the lifetime of any paper machine
- Thermodynamic efficiency of up to 83%

Everllence

Everllence Switzerland Ltd.
Hardstrasse 319
8005 Zürich, Switzerland

Phone +41 44 278 22 11
Sales +41 44 278 32 57

Efficient vacuum technology for paper production

Reduce production costs and strengthen your sustainability performance with TURBAIR® vacuum systems from Everllence (formerly MAN Energy Solutions).

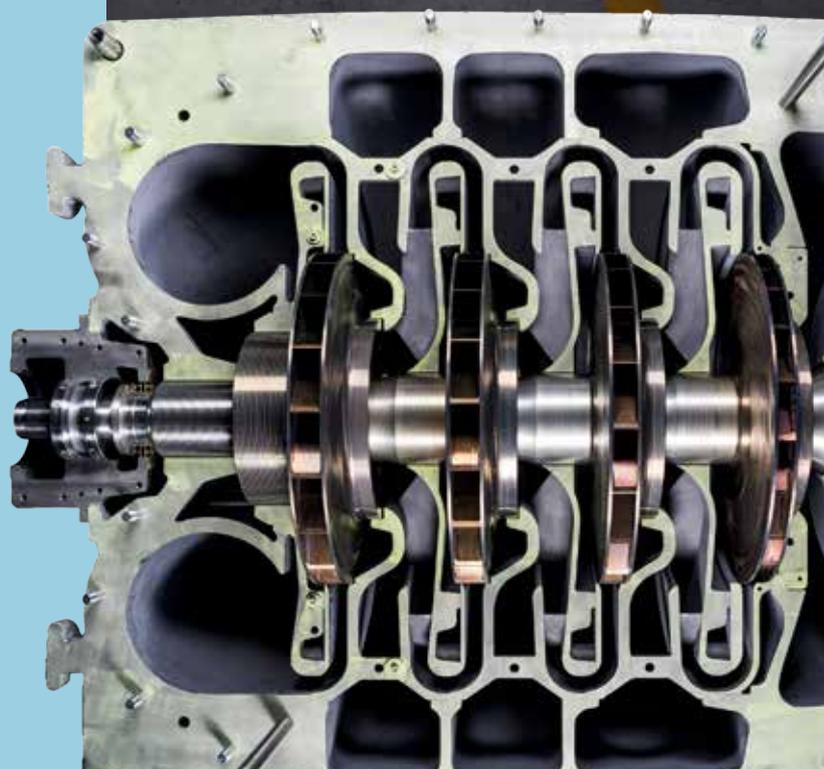
Single-stage TURBAIR® blower type RT

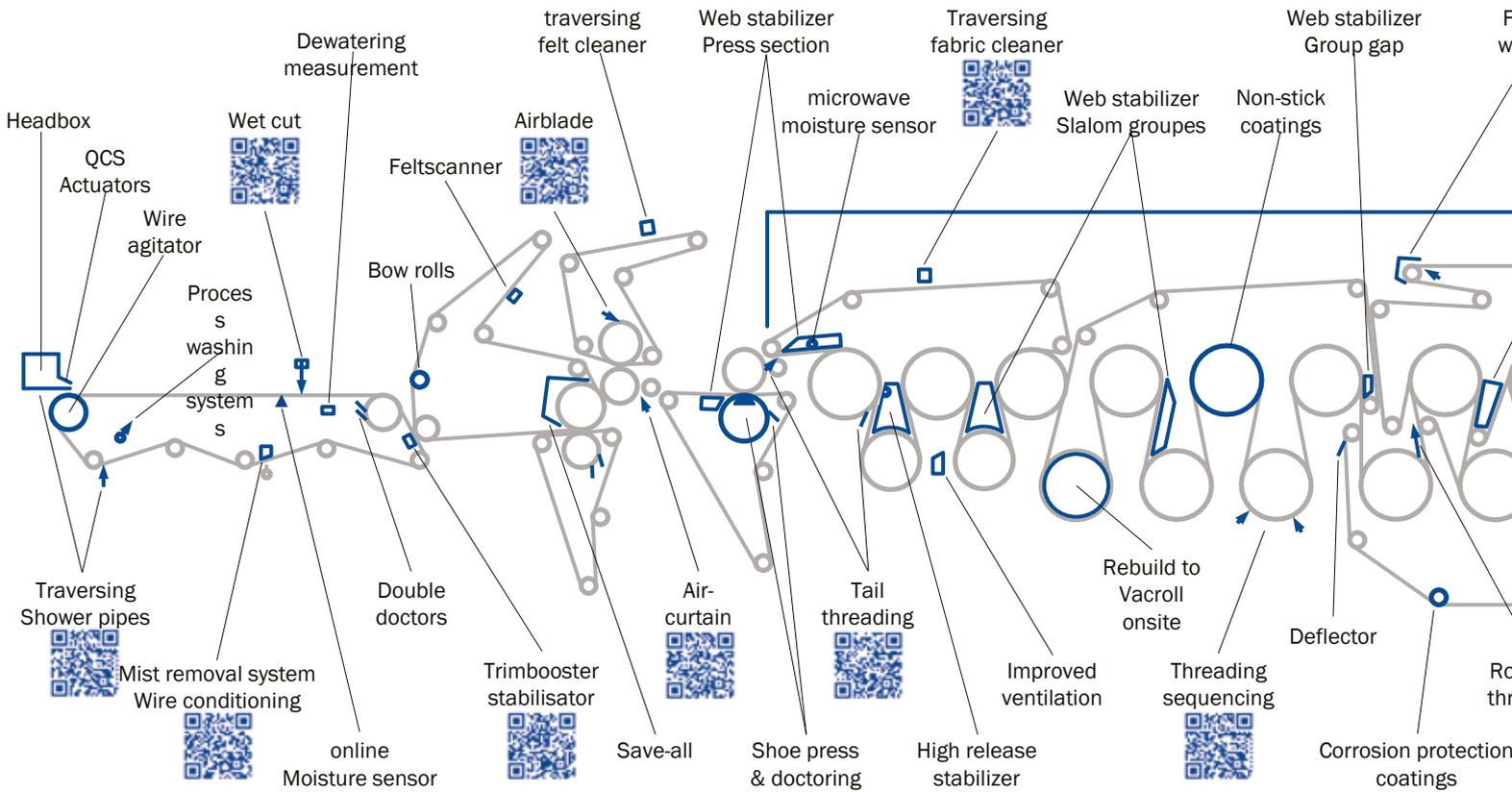


- Capacities ranging from 200 to 1'450 m³/min
- Vacuum levels of up to 65 kPa
- Automatic outlet regulation for dynamic adjustment of the airflow
- Particularly effective for applications such as felt conditioning and for tissue production

Multi-stage TURBAIR® blower type RC

- Capacities ranging from 180 to 2'800 m³/min
- Most energy effective solution if process demands many different vacuum levels ranging from 20 kPa to 75 kPa.
- Particularly well suited for graphic paper, board and pulp manufacturing





fresh innovative Paper&Process Technologies

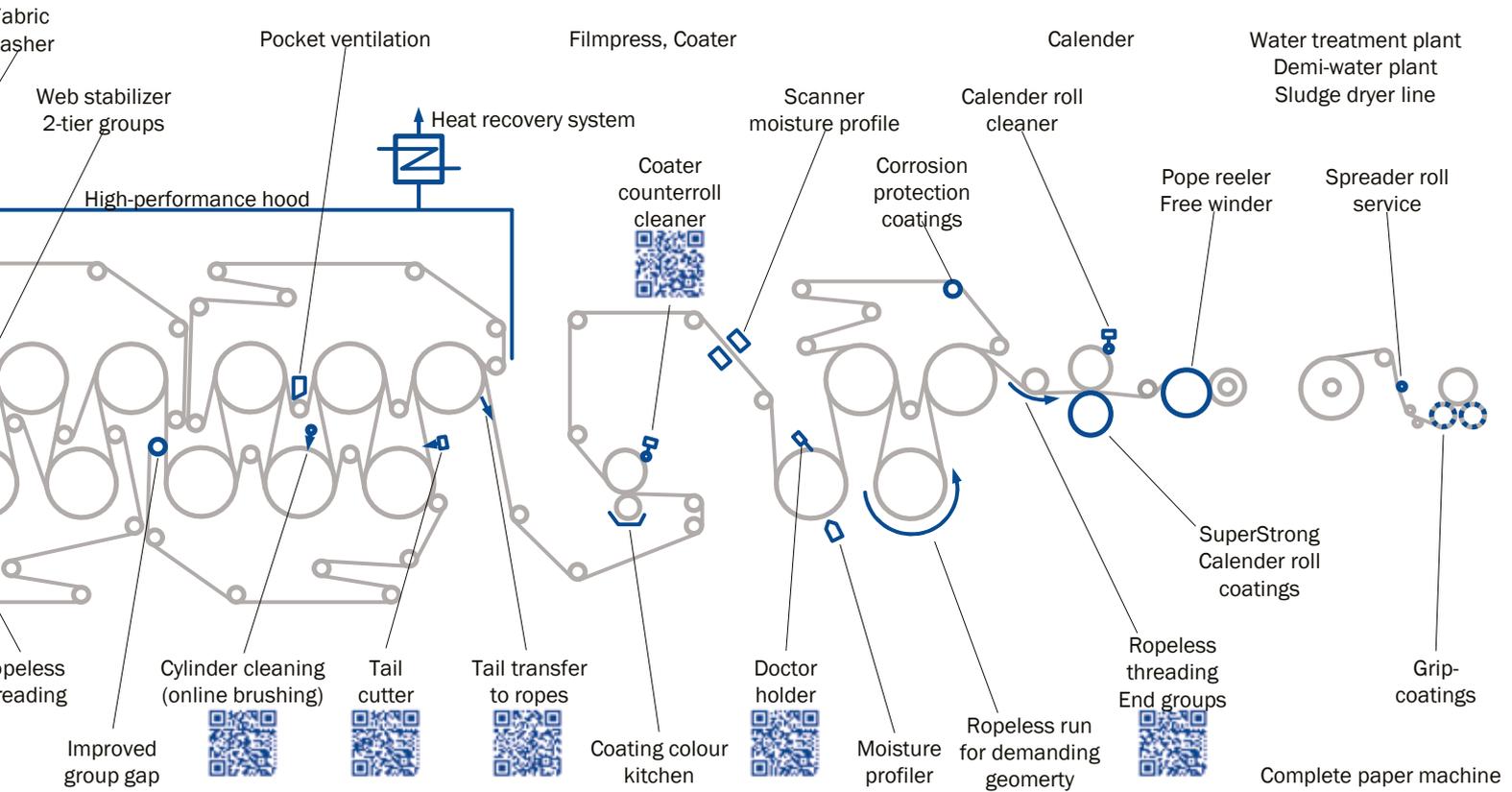
The **fipptec** platform presents innovations and novel solutions for the European paper industry. With the aim of making you:

- more efficient,
- more competitive, and
- deliver always superior quality.

fipptec partners combine:

- their high level of expertise based on a strong technical focus,
- own patents and developments,
- excellent references and satisfied regular customers.





Runtech Systems

- Vacuum systems & EcoFlow
- Web stabilizers
- Ropeless threading
- Press section optimization

Allimand

- Paper machines, complete
- Head boxes, wire agitation, shoe presses, sizer, calender, reeler and winder
- Nonwoven & speciality paper

flootech

- Microflotation (DAF)
- Waste water treatment plants
- Fresh & demi-water systems

FINCOAT
TOUGH IS NOT ENOUGH

- Hard coatings
- Roll service on-site
- Roll workshop in Germany

Fastpap

- Traversing cleaners & roll brushing systems
- Water jet tail cutters & turn-up systems

FINBOW

- Spreader rolls, new
- Spreader roll maintenance
- SmartBow spreader rolls

CMT SOLUTIONS

- Vibration analyses
- Resonance measurements
- Modelling & expertises

AME
ADVANCED MICROWAVE ENGINEERING

- Microwave sensors for online moisture measurements
- Feltscanner online

GAUSLING ENGINEERING

- Sludge dryer plants for fibre and bio sludge
- Heat pump system, if no local thermal energy available

RECYCLABILITY TESTING with FRANK-PTI



Disintegrator

Product group: S95568

- For standard-compliant disintegration of pulp suspensions
- Heavy duty agitator for most demanding applications
- With integrated counter and timer function



Fiber separation with Somerville

Product group: S40170

- Standardized fiber separation with diverse slot widths
- Easy operation and cleaning
- High precision manufactured quality screens for reliable performance during the test.



Rapid Köthen Sheet Former

Product group: S95854

- Automated laboratory sheet forming with highest precision and easy handling
- Available with circulation water system and different amount of dryers
- Elementary component of every pulp and paper recyclability measurement



New Thickener Unit for Recyclability Testing

The Thickener Unit is designed as an essential component within a standardized laboratory test method for assessing the recyclability of paper-based materials.

Positioned directly beneath the outlet of the **Somerville Fractionator**, the unit collects a precisely defined quantity of filtrate generated during the screening process. Residual fiber fragments retained in the filtrate are captured and processed under controlled and repeatable laboratory conditions.

After completion of the screening procedure, the collected fiber residues are diluted according to specified test requirements and prepared for handsheet formation. The thickened pulp suspension is subsequently transferred to a **Rapid Köthen sheet former**, where two standardized test sheets are produced in accordance with the applicable testing protocol.

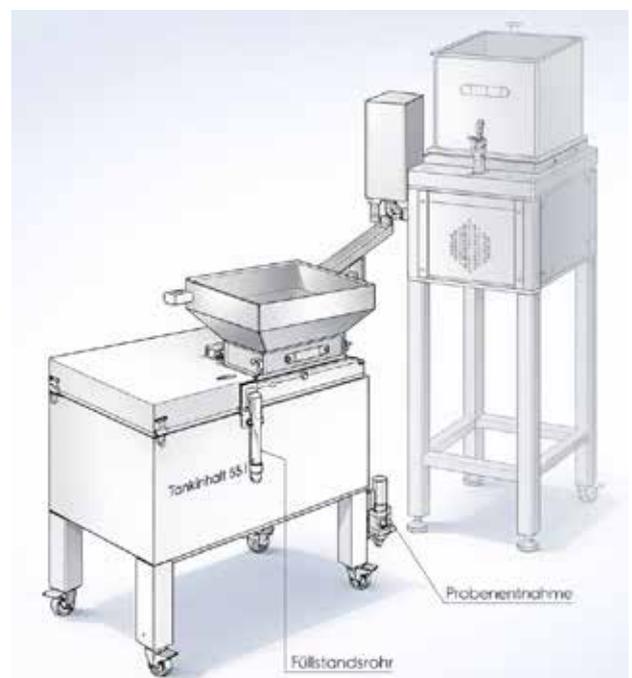
The Thickener Unit ensures controlled sample preparation and reproducible results, supporting reliable evaluation of material behavior in recycling processes.

The Thickener Unit has the following advantages:

- Reproducible processes during recyclability testing
- Controlled sample preparation
- Reliable evaluation of material behavior
- Enables an analysis of the residual water and its solid and chemical residues after the first fiber separation.

Recyclability Testing has never been so easy and problem-free!

Here you will find out more about the recyclability testing process and used instruments:



FRANK-PTI THICKENER UNIT : Coming soon



GAW technologies, a member of the GAW Group, is a guarantor of technological competence in international industrial plant engineering and construction.

With more than 70 years of experience, we are the experts for industrial

- preparation & production of chemicals and coating compounds
- automation & digitalization of industrial processes
- water & wastewater treatment solutions



Coating



Digitalization



Water

Preparation

Optimization

Recycling



www.gaw.at

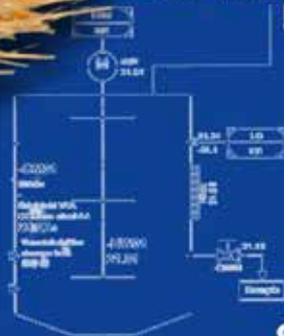
GREAT APPLICATIONS WORLDWIDE



STARCH PREPARATION

FROM GAW TECHNOLOGIES

www.gaw.at

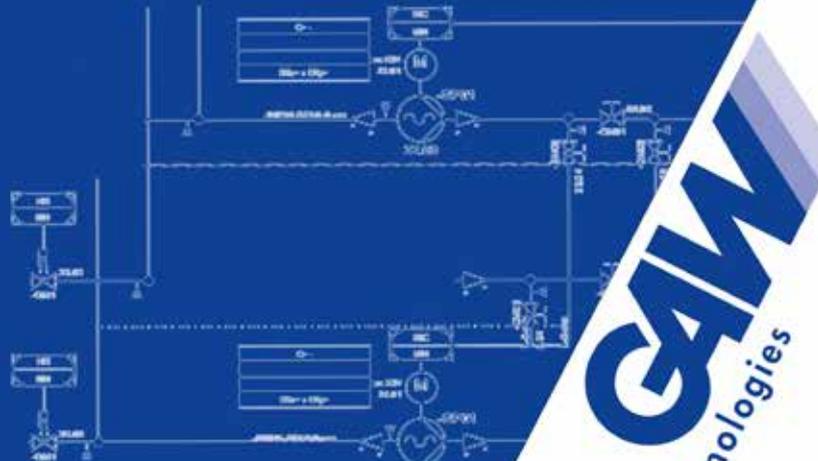


The **STARCH SAVER** creates a customized starch size with the required viscosity and molar mass distribution.

est. savings >5%

no starch losses

wastewater-free



GAW technologies supports paper- and board producers to **achieve their sustainable development goals**. We also help to **lower the carbon footprint**.



With more than 70 years of experience, we are the worldwide leading experts in the areas of **saving of energy / water / resources**.

- **preparation of coating compound and additives for the refinement of paper and board** (coating colour/starch/chemicals etc.)
- **digitalization und automation**
- **water- and wastewater treatment**





TRADITION OBLIGES, INNOVATION DRIVES US!

Gloning Krantechnik GmbH is one of the leading and most experienced suppliers of specialised cranes in Europe and is also an established supplier of standard cranes in southern Germany. We are your reliable partner for standard crane systems of all kinds as well as for the conversion of existing systems. Our strengths lie in precision, quality and many years of experience.

Gloning Krantechnik GmbH has established a firm place for itself in the day-to-day work of a wide range of industries and sectors by offering customised solutions in the field of materials handling technology.





INDUSTRY LEADER IN SPECIAL CRANES - POWERFUL AND FLEXIBLE

As one of the leading suppliers of specialised cranes in Europe, Gloning Krantechnik develops concepts, components and solutions for complex special systems.

In recent years, Gloning Krantechnik GmbH has realised impressive projects in the paper industry. Our highly qualified team has designed and realised crane systems for paper machines as well as fully automatic crane systems for handling pulp.

Repair and maintenance work for crane systems of all makes is one of our strengths, and a well-equipped service team completes our range of services.

Put your trust in Gloning Krantechnik - more than 40 years of experience ensure a competitive edge.

Gloning Krantechnik GmbH

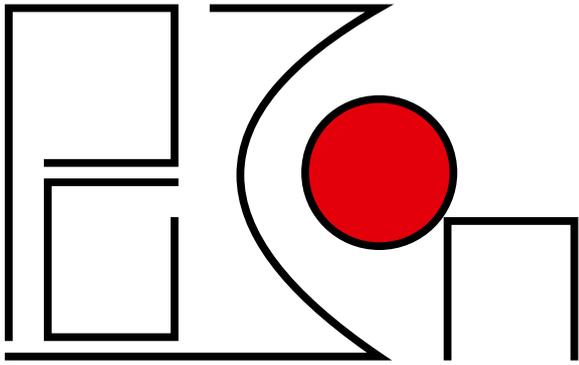
Im Lachfeld 1
73495 Stöttlen
Germany

www.gloning.com



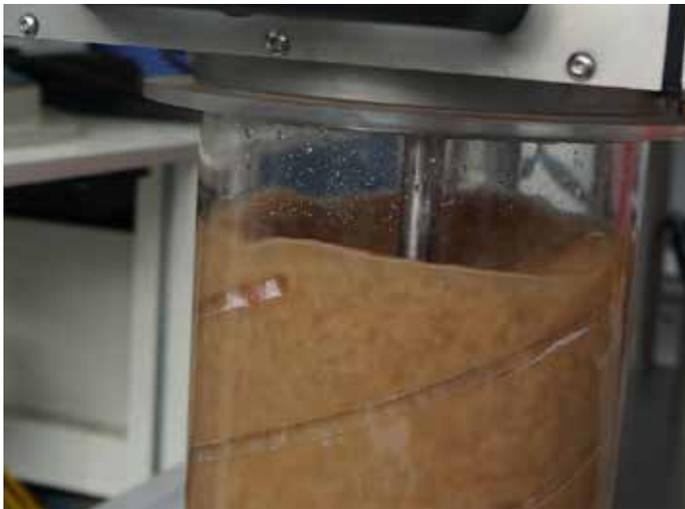
WE TAKE ON EVERY CHALLENGE

With thorough planning and maximum precision, we have equipped mega projects such as the new Palm paper mill (PM5) as well as smaller and medium-sized companies in the region with customised crane technology. Efficient paper production thanks to powerful cranes from Gloning, which carry impressive lifting capacities of 72 tonnes and are positioned at the paper machine. Our robust and reliable cranes ensure smooth handling of heavy loads, optimise production processes and thus make a significant contribution to increasing efficiency in paper production.

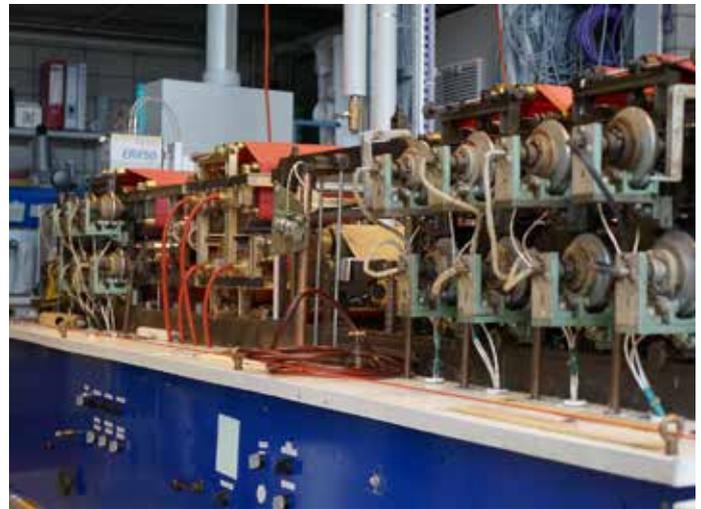


PaCon Ltd. & Co. KG
www.pacon.de

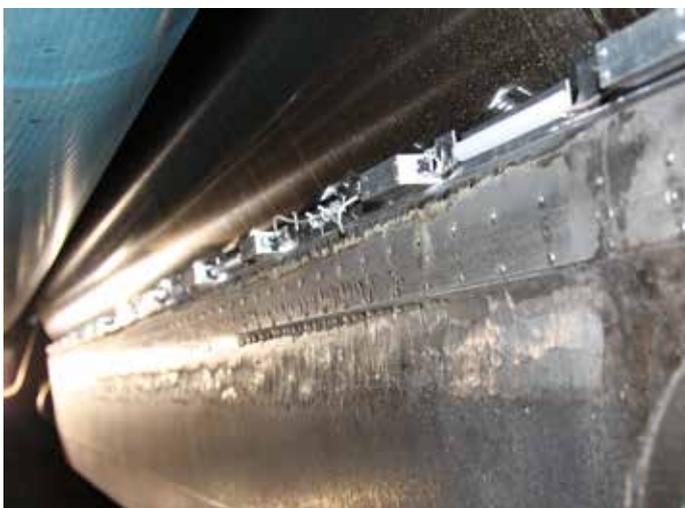
Research



Development



» INDEPENDENT R&D AND CONSULTING FOR THE PAPER INDUSTRY «

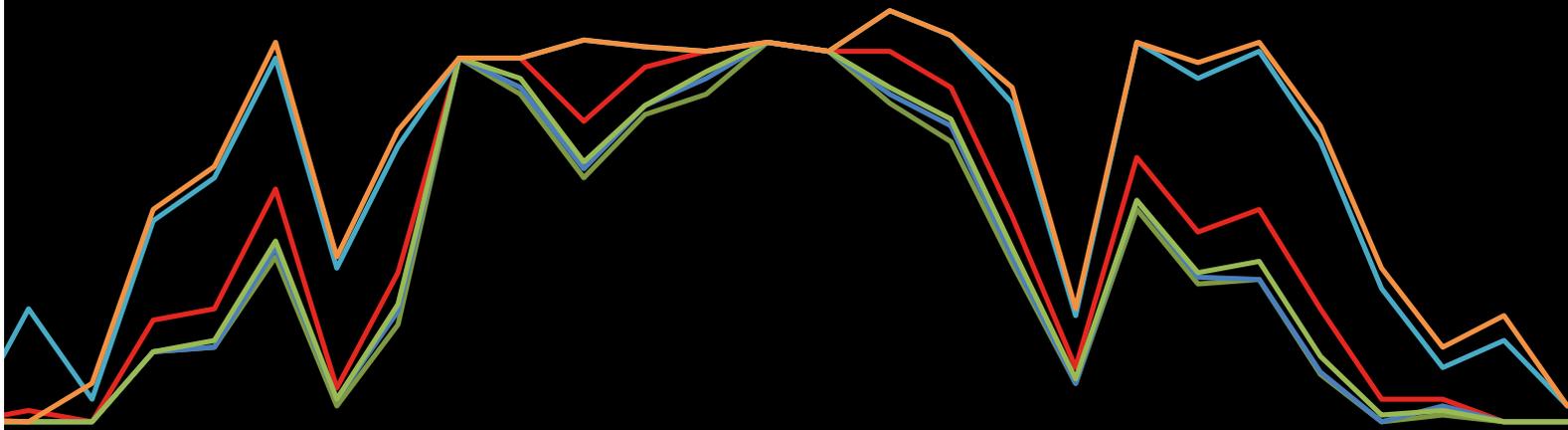


BladeCheck® Measurements

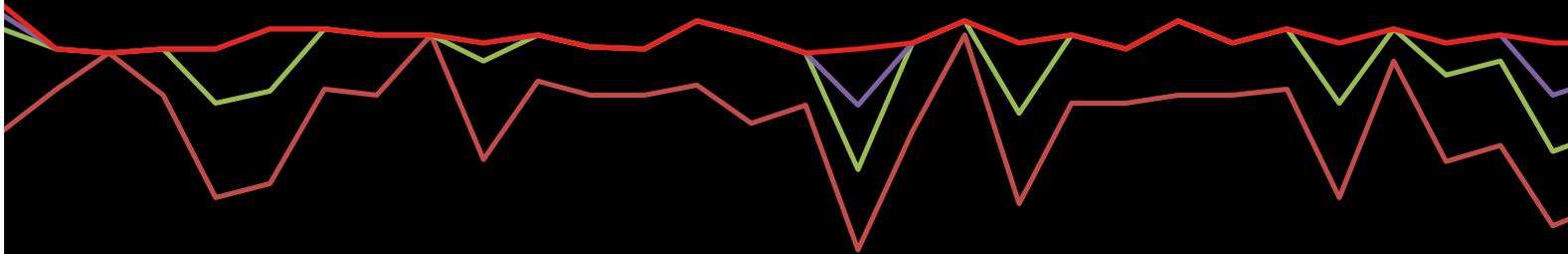
Consulting

BladeCheck®

WE KNOW THE PRESSURE
DOCTORS ARE UNDER !



» MEASURING THE REAL PRESSURE PROFILE OF DOCTOR SYSTEMS «



www.bladecheck.de





Services + Doctoring
für die Papierindustrie



PM Services + Doctoring GmbH

Partner to the
paper industry

we and our partners





Master of
Engineering,
M.Eng.

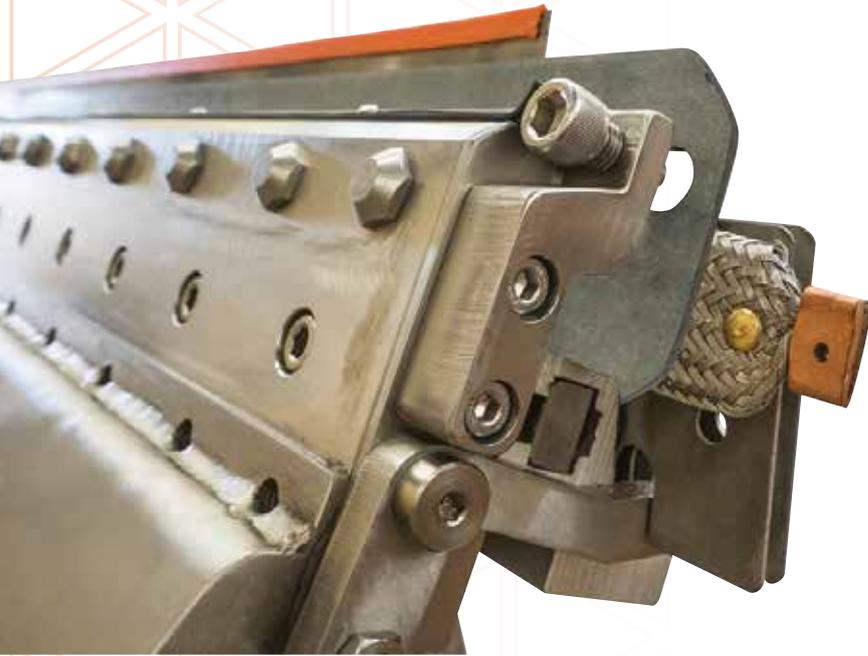
Hochschule
München
University of
Applied Sciences

Department 05
Technical Systems,
Processes and
Communication

Paper Technology

HM

CROWNING ACHIEVEMENTS



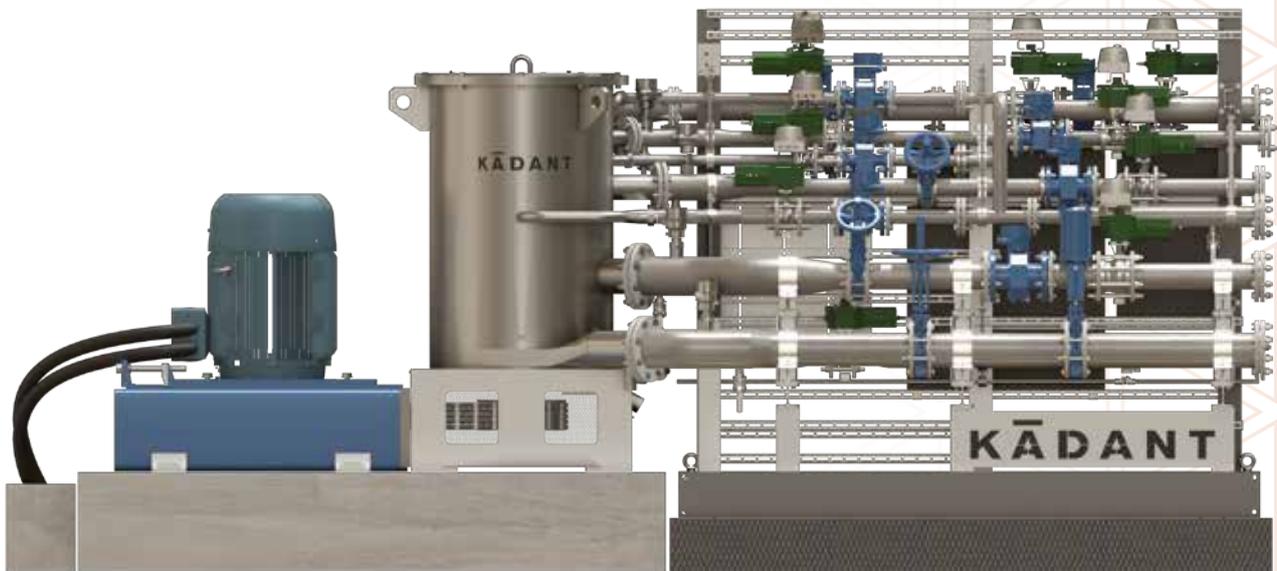
CONFORMATIC™ AL / SL

The next generation Conformatric creping blade holder. Precise bi-directional profiling of the Yankee crown without the need for edge fingers. Provides uniform sheet quality, reduced Yankee dryer surface wear, and longer blade life.

ROTOFLEX™ RESOURCE RECOVERY STRAINER

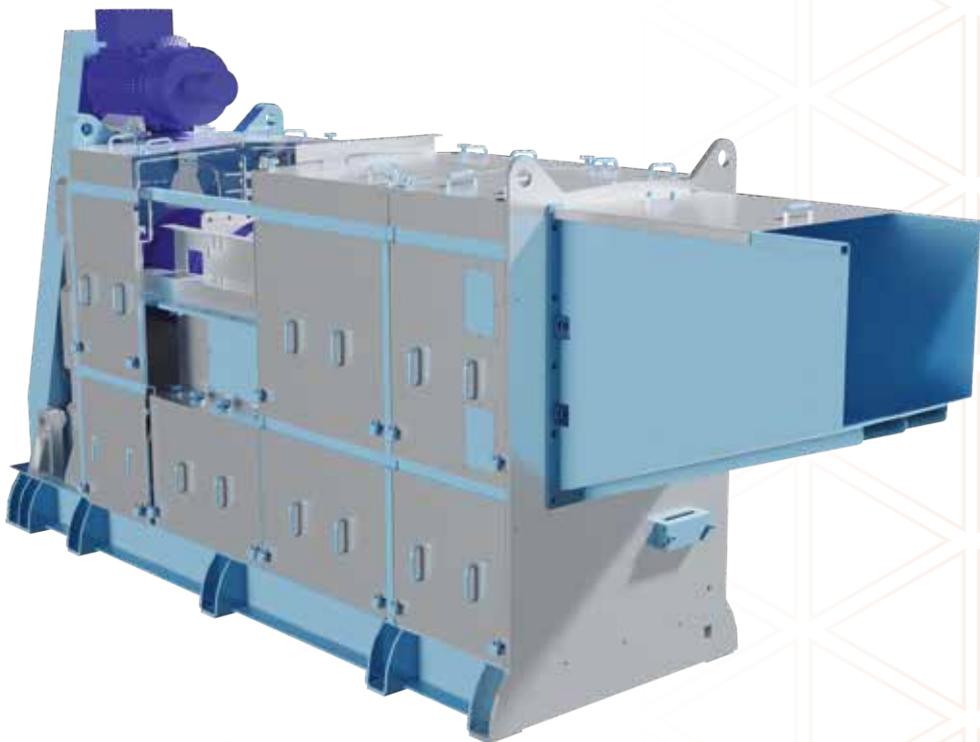
The RotoFlex resource recovery strainer is a liquid filtration system that is used to effectively and efficiently reclaim white water, heat, chemicals, and fiber from a variety of process industry applications.





SCREENONE™ FINE SCREENING SYSTEM

Powered by ID-3™ Screening Technology, ScreenOne is a versatile 3-in-1 solution that replaces multiple screens, handles diverse contaminants, and maximizes fiber yield, all while reducing installation and maintenance costs.



KADANT UPCYCLING

Our reject handling solutions tackle the high cost of waste disposal in the pulp and paper industry, delivering reliable systems that reduce your environmental impact while boosting your bottom line. Our comprehensive systems include coarse reject handling, fine reject and sludge management, and the innovative Pellet Thermocompactor that transforms plastic waste into reusable material.



Nicole Buschmeier

Match-Making

HELP

– instead of selling!



Matchmaking specialist  suppliers with manufacturers for sustainable process improvement.



For 45 years – Your partner for all QCS needs

Tasowheel is the original manufacturer of complete Quality Control Systems.

We deliver complete turnkey QCS projects for paper and converting.

- High performance profiling systems
- Advanced CD & MD controls
- First class measurements and sensors





Increased production performance



Raw materials & energy savings



Optimized paper uniformity and quality



More Info

pixact

a brighter picture of your process

Visualise – Analyse – Optimise

Continuous real-time process suspension analysis
 By combining online process microscopy with advanced real-time image analysis technology, Pixact provides you with detailed information about the properties of your process suspensions:

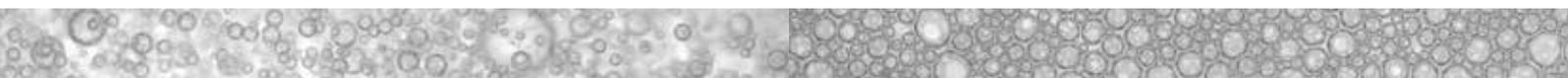
Pixact Stock Monitoring (PSM): Online / Real-time analysis of pulp impurities (e.g. dirt, shives, chemical deposits) and color

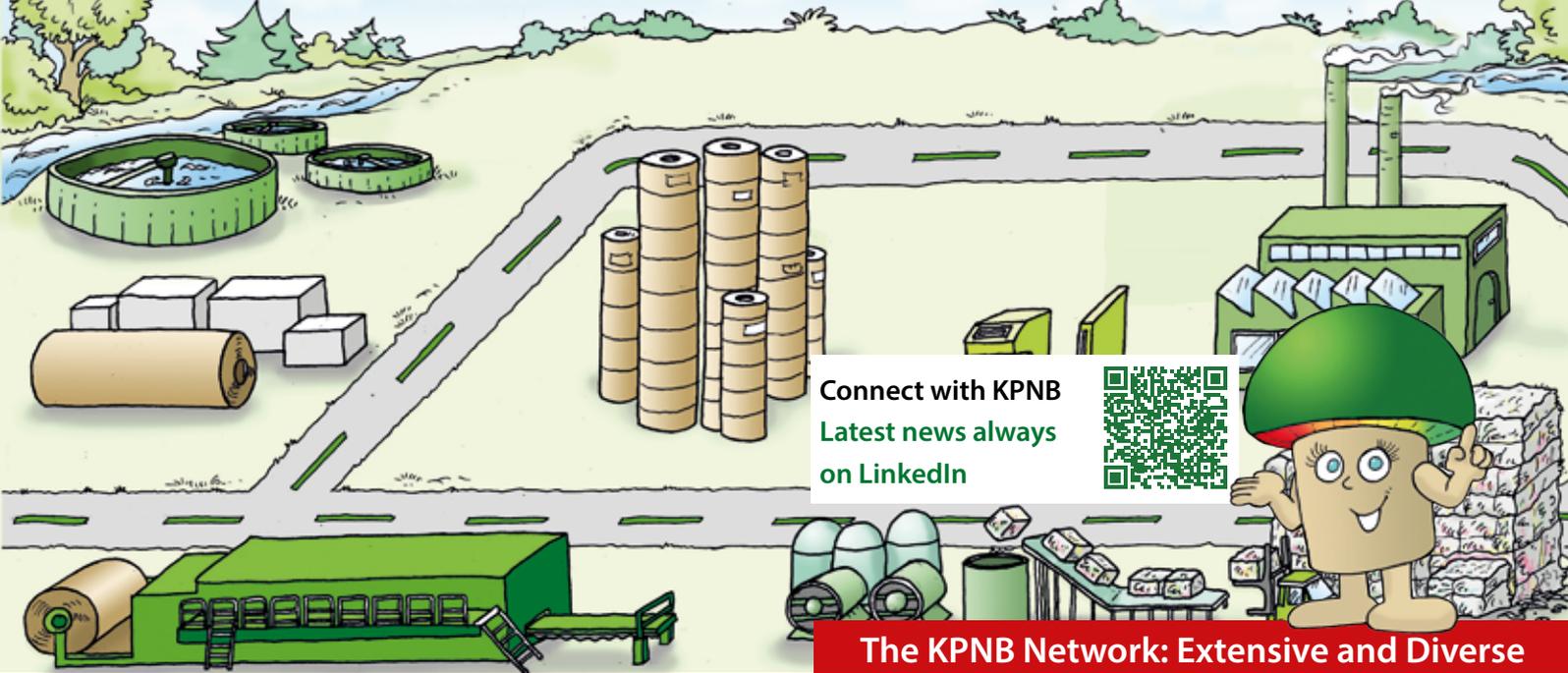


Pixact Particle Monitoring (PPM): Online / Real-time analysis of fibre length, width and fibrillation - particle size & concentration - flocculation



Pixact Bubble Monitoring (PBM): Online / Real-time detection of traces of gas - measurement of bubble size - analysis of foam quality





Connect with KPNB
Latest news always
on LinkedIn



The KPNB Network: Extensive and Diverse

Matchmaking specialist suppliers with manufacturers for sustainable process improvement. The KPNB-Network is large and diverse, we have specialists and market leaders in the industry from most vital areas. Contact us for your challenges.

Nicole Buschmeier KPNB

Resource Efficiency for Your Paper Mill!



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Professional Industrial cleaning

- Fast
- Competently
- Secure



www.lanex.cz



Paper Carrier Ropes & Accessories

A leading European Manufacturer of ropes + technical fibers



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Your partner for all QCS needs

- complete QCS systems
- durable actuators + valves
- 1st class scanners + sensors
- advanced MD + CD controls



www.anaergia-technologies.com

A new approach to recycling and resource recovery

- innovative
- safe
- flexible
- powerful
- durable
- user-friendly
- robust



Your solution is the KPNB-Net-Work!



www.pixact.fi



- Pixact Stock Monitoring
- Pixact Particle Monitoring
- Pixact Bubble Monitoring

- Enhancing innovation
- Maximizing efficiency
- Increasing safety
- Promoting sustainability



seit 1967

maintech-papertech.com/de

Erfinder der Oberflächen-Passivierung in der Trockenpartie

Ihr Vorteil in den Bereichen

- Produktivität
- Energieeffizienz
- Qualität • Wasseraufbereitung
- Instandhaltung



Before After

Inventor of Passivation

Dryer Section Passivation (DSP) Technology

Maintech was founded in 1967 and provides solutions for passivation in the dry part of paper machines worldwide—with the goal of sustainable paper production. As a pioneer in this field, Maintech has already installed more than 1,000 passivation systems worldwide.

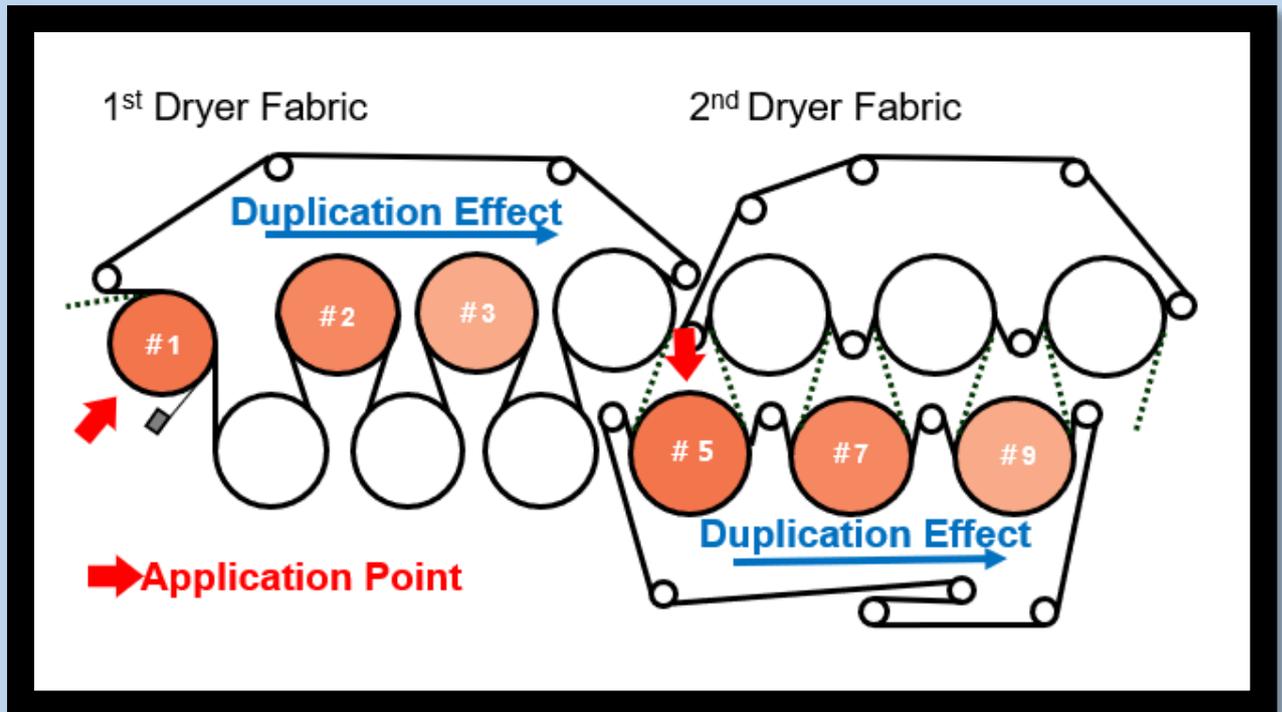


Patented Spray Nozzle

With the patented contactless spray nozzle in traversing motion, the chemical is applied to the surface of the dryer cylinders or dryer fabrics to passivate it and prevent deposits. Feel free to ask us about:

“Maintech’s patented Air Curtain technology.”

Duplication Effect



Have you ever wondered if you are using too much chemicals for sticky control unnecessarily? Conventional methods passivate three drying cylinders (#1D, #2D, #3D) in a row. With our duplication effect, not all three need to be passivated—the first cylinder does all the work!

Maintech Europe GmbH

Theodorstr. 297 TH5 40472, Düsseldorf

Tel: +49-211-98927721 email: maintech@maintech-de.com

Dryer Cylinder



Dryer Fabric



European Presence

Maintech Europe GmbH is represented with an office and warehouse in Düsseldorf. In recent years, Maintech has successfully completed over 63 installations in the EU, helping customers make their production processes more efficient.



Installation and Results at DS Smith Zarnesti

In 2022, Maintech installed three spray units on the paper machine. This led to a significant reduction in contamination on cylinders and fabrics. As a result, the previously recurring costs decreased considerably.



Specifically, the installation of the MistRunner systems improved the surface condition of the cylinders and fabrics, optimizing machine runnability and enabling a trouble-free production process. Additional benefits included fewer web breaks, reduced adhesive marks, and noticeable steam savings



An additional advantage was the drastic reduction in cleaning effort for wires and doctor blades during machine operation—almost to zero. The customer remains satisfied to this day with the reliable customer service that keeps the system in perfect condition.

Maintech Europe GmbH

Theodorstr. 297 TH5 40472, Düsseldorf

Tel: +49-211-98927721 email: maintech@maintech-de.com



NCR
Biochemical

Where innovation meets service for a sustainable future

We are specialized in **Pulp & Paper process additives, Water treatment, Biotechnology and the Sugar industry.**

For over 25 years, we have been providing innovative chemical solutions to improve efficiency and production quality.

- ✓ **Reducing environmental impact** while maintaining high standards of quality and performance.
- ✓ Rely on our **customized solutions** to optimize productivity, reduce costs and ensure safety in industrial processes.

Discover VersiCrepe® A revolution in tissue paper creping

The VersiCrepe® program **enhances the creping process, increasing operational versatility and optimizing paper softness without sacrificing strength.**

This advanced technology, tested through rigorous laboratory analysis and numerous global references, delivers excellent performance under various operational conditions, ensuring optimal and consistent results.



Treatments for the Pulp and Paper Industry

Yankee Coating

Biocides

Defoamers

Wire & Felt Conditioning

Enzymatic Solutions

Pitch & Stickies Control

Retention & Drainage

Fiber Recovery

Dryer Section

Water

Find out more on

[ncr-biochemical.com](https://www.ncr-biochemical.com)

Headquarter Via dei Carpentieri, 8 – 40050 – Castello d'Argile (BO) Italy



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Foshan

LUXEMBOURG
Hagen



Fibre-based solutions for tomorrow's products.



Fibres & Composites

- Pulp analysis and raw material selection
- Bio-based paper additives
- High-performance materials produced by paper technology
- Chemical modification of fibre materials



Smart & Circular Solutions

- Circularity of fibre based products
- Recoverd Paper Management
- Optimizing stock preparation processes
- Quality management of fibre stock and end product
- Innovative measurement: PaperBaleSensor (PBS), DOMAS, RCP Monitor



Material Testing & Analytics

- Accredited laboratory according to DIN EN ISO/IEC 17025:2005
- Testing of physical and chemical properties
- Packaging coding, printability & processing
- Evaluation of food conformity
- Assessment of the recyclability of fibre based materials
- Methods for simulation and modelling
- Document Security, CEPI Round robin tests, Test equipment service



Pilot plants

Paper, wet laid fibre, coating

- Pilot paper machine with stock preparation
- Wetlaid technology with spunlace bonding
- Trial coater and curtain coater
- Reactive extrusion of fibre materials



Functional Surfaces

- Surface analytics
- Development, optimisation and application of functional coatings (development of barriers)
- Functional application of bio-based materials
- Classification of coating colours



Events & Further Education

- Events on current topics from the research areas
- Combining know-how from companies, science and associations
- Formats: Symposia and conferences, workshops & seminars, online and Onsite

PTS – Institut für
Fasern & Papier gGmbH

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Testing
Services



Industrial
Solutions



Research



Events





The device for upcoming ISO 15360 – 3

Macrosticky determination according to DIN-Spec 6745

Determination of sticky and non-sticky macroscopic particles in paper with NIR camera technology

The new NIR imaging measurement method enables the determination of macrostickies, but also of nonadhesive polymers without a separation step directly in laboratory sheets of fabric samples or in finished paper. The objects are determined by number, size and area. In addition, it is possible to classify the detected impurities according to their chemical composition.

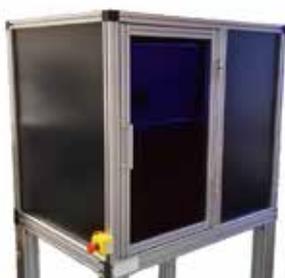
Advantages over previous determination methods:

- Direct measurement in the dry paper sheet without sample preparation
- No fiber sorting and staining required
- Significant savings in time and personnel and therefore thus cost reduction. The only effort required sampling and, if necessary, making laboratory sheets for stock suspensions
- NIR classification module enables differentiation between adhesive and non-adhesive as well as the identification of all other substance classes of polymeric impurity particles



Technical details:

The measuring system DOMAS Macrosticky is a complete system, consisting of a NIR measuring station, a PC and a measuring and operating software. The components are compactly enclosed in a 1 x 1 x 0.8 m structure. The core component, an NIR line scan camera, has a resolution of 120 x 120 µm per pixel, which is equivalent to over 200 dpi.

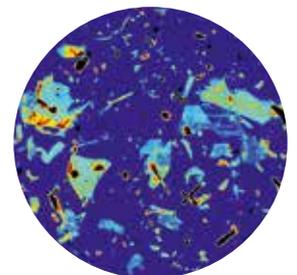
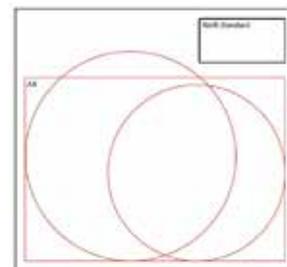


Measurement procedure:

The sample table contains a complete DIN A4 sheet of paper, but also a typical RK sheet and larger groove sheets. After closing the cover, the fully automatic measurement begins. No pre-setting has to be made. The measurement itself takes up to 5 minutes, depending on the size of sample and ends with a visualization, quantification and classification of the polymeric objects.

Evaluation:

The NIR raw data are assigned to the individual chemical components within a decision tree, combined into objects and statistically processed.



Contact person



Jörg Hempel
P +49 3529 551 659
E joerg.hempel@ptspaper.de



USER FRIENDLY SOFTWARE

- > Runs on standard controlling PC with Windows OS
- > Measurement window
 - Individual investigation of each detected dot
 - Configurable results table displays results for last test and average of tests done
- > Configuration window
 - 11 configurable classes for size and contrast
 - Different configuration settings may be saved (e.g. ISO 5350, TAPPI T213, T437, T563 for simple change of measuring reference standard)

RELIABLE AND POWERFUL

- > High resolution linear camera with 12.288 pixels
- > Adjustable according to sheet dimensions, up to 83cm width and no limit for sheet length
- > Resolution, pixel size 67µm for max. width (83 cm)
- > Analysis time < 1 minute for a 80 x 80 cm sheet
- > Repeatable and reproducible

DIRT LABORATORY ANALYSER FOR LARGE SIZED PAPER SAMPLES AND PULP SHEETS

- > Quick analysis of dirt in pulp and paper large sheets.
- > Accurate dirt counting on :
 - paper sheet by reflected light
 - pulp sheet by transmitted & reflected light
- > Powerful led illumination system
- > Performs digital scan of individual pulp or paper sheets either by reflected light or by transmission according to ISO standards
- > Detects any contrasting impurities such as shives, metal, plastic, grease, sand, etc
- > Sorts detected impurities as black dots, gray dots and shives according to its color and shape
- > Calibration of the measuring system according to the EFPG standard (CEN/TC 172)



Fully automated sheet scanning

MORFI NEO HR

High resolution module

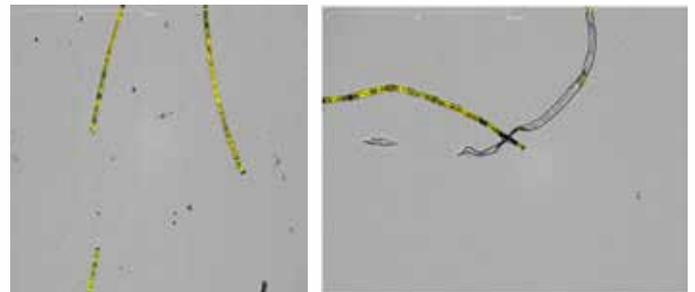


HARDWARE EXTENSION TO MORFI NEO

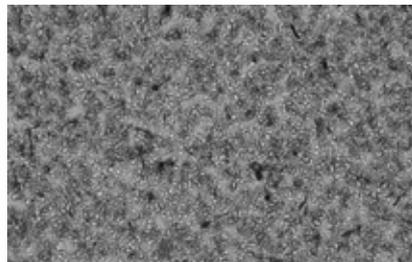
- > Mounted on backside as a separate module
- > Fully controlled by MorFi Software
- > High resolution camera:
 - Resolution down to 0,5 μm
 - Adjustable cell gap
- > MorFi HR Software can be used separately or incorporated into MorFi Neo interface

APPLICATIONS

- > Fiber wall thickness true optical measurement:
 - Typically ranging from 3 to 9 μm according to the several different wood types used worldwide for pulp production
 - Wall thickness values are integrated among the standard fiber morphology results to MorFi Neo
- > Hydroseg Index : exclusive CTP* index to determine the fractionality of fiber by Hydrocyclone.
- > MFC behaviour:
 - Determination of flocculation index for example



Wall Thickness images by MorFi HR



MFC image by MorFi HR

ANALYSIS DURATION

- > MorFi fiber cycle

MEASUREMENT PROPERTIES

- > Wall Thickness distribution (10 classes)
- > Wall Thickness Average and Standard deviation
- > Width Average and Standard deviation
- > Hydroseg Index

*CTP : Centre Technique du Papier



TECHPAP SAS

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www.techpap.com - techinfo@techpap.com

 **techpap**
innovation for pulp & paper

Optimize industrial operations



Wedge digests all the process data including QCS profiles, from multiple sources, for analysis and diagnosis. It uncovers and suggests possible root causes and consequences of process events before they escalate into big problems.

Wedge is the perfect tool for the pulp and paper industry with 30 years of high user satisfaction.

in use in over

20

countries, worldwide

used in more than

200

production lines

thousands

of users



Visualize process
& quality data



Refine the data
and compensate
for process delays



Analyze your
data



Diagnose
dependencies
and root causes

Learn more or contact us:

wedgesales@trimble.com
wedge.trimble.com



The **benefits** of the Wedge process diagnostics system:

Increase process transparency.

Save costs by addressing issues rapidly.

Perform a week's data-analysis work in only 10 minutes.

Shift your mental resources from processing data to solving problems.

Enable data- and knowledge-sharing, and unlock collaboration with colleagues.

Benefits of Wedge are seen in operational efficiencies, product quality and output but also in the employee experience.”

Guy Lacey, Next Generation
Technology Director at DS Smith

Turn to Trimble



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Trusted by:



ihre vorteile

supports you in producing paper, cardboard and tissue more efficiently, cost-effectively and with better quality.

Our partners and we have a high level of expertise and many years of experience – and focus on paper and pulp production and converting.

We provide solutions for

- Energy efficiency,
- Decarbonisation,
- Runnability, and
- Quality.

For challenges with

- Energy optimisation,
- Runnability and performance increase,
- Reject treatment,
- Drying and profiling,
- Deaeration, defoaming, and felt washing,
- Tinting,
- Fibre recovery,
- Process automation,
- Reject- and Sludge pelletising,
- Chatter marks and Creping, as well as
- Sticky treatment

we provide you with the optimal tools for problem solving.

unsere partner

wolf heilmann



AQUATAN

Higher dry content after press
Reduction in steam consumption
Reduction of sheet breaks
Improved retention
Control of stickies
Circulation cleaning

automation X

WE SIMPLIFY YOUR WAY

Process automation
Machine automation
AI-optimized reduction of steam consumption
Integration of digital twin
Performance increase
Reduction of energy consumption

CF PROC SIM GmbH

Reduce steam consumption by up to 8%
Energy efficiency through digital twins
AI to increase performance
Soft sensors
Bivalent operation of paper drying

COMPACT ENGINEERING

eNIR dryer with double evaporation rate
Deep drying from the inside out
Barrier drying
Highest energy efficiency
cool to touch in 2 s

Green COOLING

Waste2Heat • Waste2Steam • Waste2Cool
Decarbonisation
Energy efficiency
Cooling
Heat pumps
Steam generation

KLASS FILTER

Jet Wing Liquid Filter
Filtration of suspended, floating and sinking solids in a single filter up to 25 µm
Fiber recovery
Super clear filtrate
Microplastic separation
Police filter
Spiral filter

NCR BIOCHEMICAL

Felt and wire cleaner
Enzymes
Creping aids
Deaerators and defoamers

OGUMA IRON WORKS CO., INC.

Reject pelletizing
Sludge pelletizing
Rejects to fuel
Sludge to building material
Ogumazer turns waste into valuable energy

ProJet B.V.

Professional high pressure water jet technology

High-pressure cleaner for forming fabric, press felt and dryer fabric
Wet end tail cutter
Dry end tail cutter
Edge trimming

SPOONER

Drying hoods
High performance hoods
Air Turns
Cooling hoods
Heat exchangers

STEINER

Direct dyes
Liquid dyes
Brown dyes

WIPA

FIBER SEPARATION TECHNOLOGY

Fiber recovery
Reject treatment

PROPAKMA

Projekte • Papier • Karton
Management • Labor

PROPAKMA advises our customers on reject utilization, fiber recovery, water treatment and contaminants

X-Rite Inline Color Measurement Solutions For Paper Mills



Your Reliable Partner for In-Line Color Measurement and Closed Loop Color Control

The X-Rite In-Line systems are used worldwide for white paper (with and without OBA), colored paper (including deep shades), laminate paper (measurement in the pulp and before drying section), packaging paper and liner board. More than 1.000 In-Line installations in the paper industry worldwide, prove the reliability of the systems and provide a good reference.

Sales, engineering, installation and service worldwide provided from one hand. Our turnkey solutions include:

- In-Line color measurement
- Automatic Closed Loop Color Control
- Connection to any process control system and other external signals like reel change or paper break
- Dye pump interface
- Dye pump stations in various configurations (Bran+Luebbe, Watson Marlow, Grundfos, ...) including vacuum pumps for initial filling of the dosing pumps
- Separate transport water lines (anionic/cationic)

The system is working as a standalone unit but can easily communicate with any process control system.

Short transition times are realised by the automatic Closed Loop Color Control. It also helps to reduce dye consumption and take the "guess work" out of the production by calculating the correct dye adjustment. The independent turnkey system is installed within 3 days, only two hours machine shut-down are necessary.

This guarantees a very fast return on investment (typically 3 to 6 months) and a very low cost of ownership.

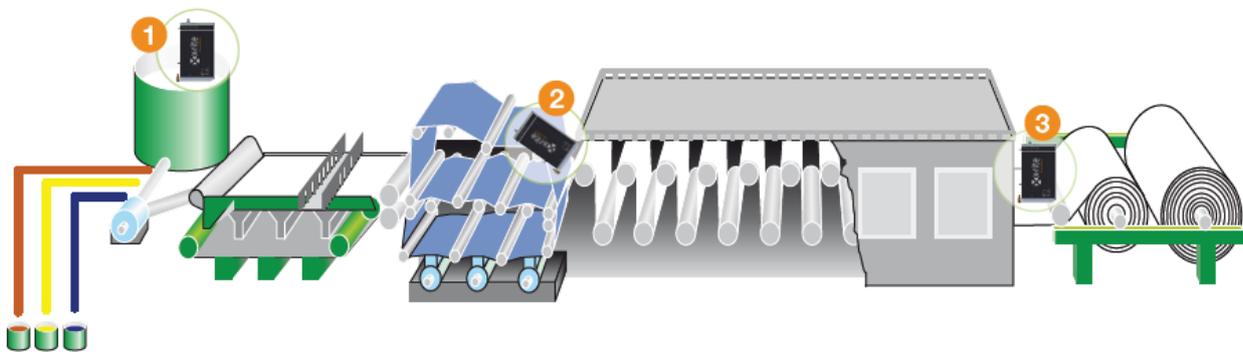
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E-Mail: inline@xrite.com
Web: www.ERX50.com



Total Color Control on the Paper Production Line

An inline color measurement and control system includes a non-contact spectrophotometer mounted on a custom frame over the production machine and closed loop color control software to monitor color throughout the run. The inline spectrophotometer can be mounted in three locations.



1 In the Pulp

Measuring the pulp acts like a pre-warning system to notify operators what will be on the machine soon.

Ideal applications: Laminated paper, white paper

2 After the Press Section

Measuring the wet paper before drying offers a good correlation to the finished product.

Ideal applications: Laminated paper

3 Before Reel Up

The most common place for color measurement is before reel up because it offers excellent correlation to the laboratory. By mounting multiple devices, an inline system can simultaneously monitor and control both sides of the paper line.

Ideal applications: Testliner, security paper, colored and white paper, coated paper, tissue, printing paper, pre-impregnated paper

The Benefit of Using a 45°:0° Device for Paper Manufacturing

Traditionally, the paper industry has used sphere spectrophotometers in the lab, which measure color without considering surface effects. This can lead to misunderstandings with printers, who typically measure using 45°:0° spectrophotometers. X-Rite's inline and laboratory spectrophotometers both measure using 45°:0° geometry, which better correlates with human vision and print specifications for clearer expectations.



Lukas und Thomas Villforth

Quality fabrics from a family business in Germany Villforth Siebtechnik GmbH - 100 % Made in Germany

Villforth Siebtechnik GmbH is located in Reutlingen, Germany and can look back on more than 150 years of company tradition. Today, Thomas and Lukas Villforth are running the company in the fourth and fifth generation. Villforth Siebtechnik is specialized in the manufacturing and sale of synthetic fabrics, especially forming fabrics for the paper industry. All of them are made in Southern Germany in accordance with the highest quality standards.

Today, the customer base also includes other industries such as fiberboard and chipboard, food industry, leather fiber, glass nonwoven and nonwoven industry in general. Through our global distribution network, Villforth is represented in more than 25 countries all over the world.

The size of the business enables us to take quick and unbureaucratic decisions and thus rapid implementations. We have a strong team, consisting of specialists of both, textile and paper industries. All of our products are manufactured in Reutlingen, Southern Germany. For us at Villforth it is important to guarantee the highest quality standards. We provide tailor-made applications. Our research and development teams are working at maximum speed to meet the fast changing and increasing demands of our customers.

We are proud to announce our investment in the world's most modern weaving machine, reinforcing our commitment to exceptional production quality. The start-up is scheduled for March 2026.

The newly developed **V-POWERLINE** series allows further modification of the forming fabrics to match every specific requirement:

DURATEC

Abrasion resistant machine side for long fabric lifetime: reduced machine downtimes with increased lifetime potential of the fabric is leading to an overall cost reduction.

eRun

Newly developed yarn material for reduced power consumption: based on the low coefficient of friction, the drive power in the wire section can be reduced. Furthermore, the special yarn material favors a flat lying fabric and prevents edge curling.

TOPAZ[®]NT

The unique Topaz NT coating of the fabric covers the filaments and crossing points of the fabric: preventing the contaminants of fibers and is leading to a cleaner fabric. Simultaneously, the coating increases the dimensional stability of the fabric by approximately 30%.



The background of the entire page is a close-up, high-resolution photograph of a large roll of paper. The paper is tightly wound, creating a series of concentric, overlapping layers that create a rich, textured pattern of light and dark brown tones. The lighting is dramatic, highlighting the edges of the paper layers and creating deep shadows in the creases.

European IP specialist firm
Withers & Rogers will be
attending International Munich
Paper Symposium (IMPS) 2026.

Looking for advice on patent, designs
and trade mark registrations in Europe
and further afield?

To get in touch email:
ewittman@withersrogers.com

