

PRO flexconvert

Magazine for Converting Professionals

- ➔ The Green Issue
- ➔ Coating, Metallizing & Pilot Lines
- ➔ Static Control & Web Cleaning

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Exciting times in the flexpack sector

Dear Readers,

I admit it: in view of the many projects and innovations in the field of ‘batteries, energy storage and fuel cells’, the topic of packaging has recently taken somewhat of a back seat in my personal perception of the converting industry. However, the past few weeks have radically changed this.

The topic of barrier papers is now at the top of the priority list for manufacturers of coating lines. During my visit to Polytype Converting in Switzerland, I was able to see this for myself. At FACHPACK in Nuremberg, experts from Mondi explained to us how paper packaging with barriers can be used in practice. And in our (English) podcast interview with Sara Alexander from BOBST, we also discussed the role of paper in the flexpack sector – be sure to tune in!

But of course, sustainability is not only about paper. Suppliers of plastic film packaging also supported the main theme of FACHPACK, ‘Transition in Packaging’. They are making recycling easier with monomaterials and reducing material consumption with ever thinner and particularly sophisticated designs.

However, the packaging sector is by no means our only focus in this ‘Green Issue’. Be inspired by the innovative spirit of our industry!

In a few days, we will visit the **49th Munich Adhesives and Finishing Symposium (MKVS)**. Perhaps we will see you at this traditional industry highlight?

Enjoy reading!

Yours
Martin Hirschmann
Editor-in-Chief

*Join the
Converting Family!*



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PRO flexconvert PODCAST



Sara Alexander (BOBST)

An interview with the Marketing and Communications Manager for Flexible Packaging at BOBST Italia. One focus of the interview is BOBST’s sustainability strategy.

Listen now!





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PRO flexconvert

Magazine for Converting Professionals



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“Giving something back to the community”

API Transfer Technologies announces its official launch

17 September has marked the official launch of API Transfer Technologies, a new company born from the union of respected brands with a rich heritage. This new company positions itself as a leader in innovation, reliability and customer-centred solutions.


API Transfer Technologies was formed following the acquisition of all companies and brands of United Foils Europe BV (United Transfer Technologies, United Foils, Packvision, Starfoil, Newfoil Machines) by API Foilmakers, An Aldus Company. This acquisition, which was officially announced in May this year, is reported to represent a significant step towards creating a stronger, more diverse organisation that builds on the strengths of its predecessors.

"Today marks the beginning of an exciting new chapter in our journey," said Kenny Gilmour, Managing Director of API Transfer Technologies. "With the formation of API Transfer Technologies, some of the most respected brands in the industry are now united under one roof. This integration will allow us to leverage our combined expertise, drive innovation and improve the quality of service to customers around the world."

Kenny Gilmour continues: "Our mission is clear: to build on the heritage of the brands we represent while setting new standards in quality, sustainability and customer service."



The company's extensive global distribution network with local warehousing and converting facilities, as well as its European manufacturing facility with decades of experience in the production of high-quality transfer products, enables a wider range of products and services, shorter lead times and an unwavering commitment to quality."

 www.unitedtransfer.com, www.apifoilmakers.com
Image source: API Transfer Technologies


Stahl Group acquires WEILBURGER Graphics GmbH

WEILBURGER Graphics, an internationally renowned manufacturer of varnishes, inks and adhesives for the graphic arts industry, is about to be taken over by the Stahl Group, provided the usual approvals are granted. This move is expected to strengthen the Stahl Group's coatings business for flexible materials such as paper and board. In addition, the merger is reported to enable global expansion in the graphic arts industry, from which the company expects further customer benefits.

Günter Korbacher, Managing Director of WEILBURGER Graphics: "We are excited to join the Stahl Group to combine our expertise and expand our global footprint in packaging varnishes. Stahl is a well-known and respected brand and with our complementary product portfolios, geographic coverage and our QIS approach, covering the success factors of Quality, Innovation and Sustainability, we will create a well-rounded and truly global offering for the market." Maarten Heijbroek, CEO of Stahl: "I am very excited to welcome WEILBURGER Graphics to the Stahl Group. This is another important step on our strategic journey. The



acquisition further strengthens our packaging coatings business, building on the acquisition of ICP Industrial Solutions Group (ISG) in March 2023. Importantly, it will enhance our position in the European packaging coatings market with its innovative portfolio in growth markets like food and beverages, cosmetics and pharmaceuticals, unique expertise, state-of-the-art manufacturing facilities and a distinct focus on sustainability. I have gotten to know the WEILBURGER Graphics team as one of the best in the industry."


 www.weilburger.com
www.stahl.com
Image source: WEILBURGER Graphics GmbH



Reifenhäuser Group announces changes in management team

As of 1 July, Marcel Perrevort (46) has been appointed Chief Sales Officer of the Reifenhäuser Group. He succeeds Ulrich Reifenhäuser, who had been in this position for more than 25 years. With this decision, the family-owned machinery and plant manufacturer is consistently continuing the already initiated generational transition in its management structure.

"I am very much looking forward to my new role as CSO and the associated task of strengthening our leading position in the market. One focus will certainly be the further expansion of our international sales and service units, which will enable us to become even more customer-centric in the market," says Perrevort. Furthermore, and also with effect from 1 July, Eugen Friedel (42) is leading the business of Reifenhäuser Blown Film as the new part of the dual management team alongside Dr Andreas Neuss. Friedel succeeds Marcel Perrevort, who has moved to the Reifenhäuser Group holding company as Chief Sales Officer. "Thanks to his many years in sales, Eugen Friedel knows the challenges and expectations of our customers very well. He therefore has the best qualifications for the new management position," says Bernd Reifenhäuser, CEO of the Reifenhäuser Group.


 www.reifenhauser.com
Image source: Reifenhäuser



Dr Yvonne Galinski takes over as Head of R&D at Neschen

Neschen Coating GmbH, a leading provider of innovative coating solutions and specialty media, has appointed Dr Yvonne Galinski as the new Head of the Research and Development Department. Dr Galinski assumed her position on 1 August 2024, bringing extensive academic and professional expertise, making her an ideal fit for this key role. This year, Neschen celebrates its 135th anniversary, continuing its long tradition with a clear focus on innovation and sustainability.

With Galinski's appointment as Head of Research and Development, Neschen underscores its commitment to advancing innovative and sustainable solutions. The strategic decision to divide laboratory responsibilities between research and development and quality assurance enables a more specialised approach.

 www.neschen.de
Image source: Neschen Coating GmbH

ECONOMIC EFFICIENCY AND SUSTAINABILITY GO HAND IN HAND.

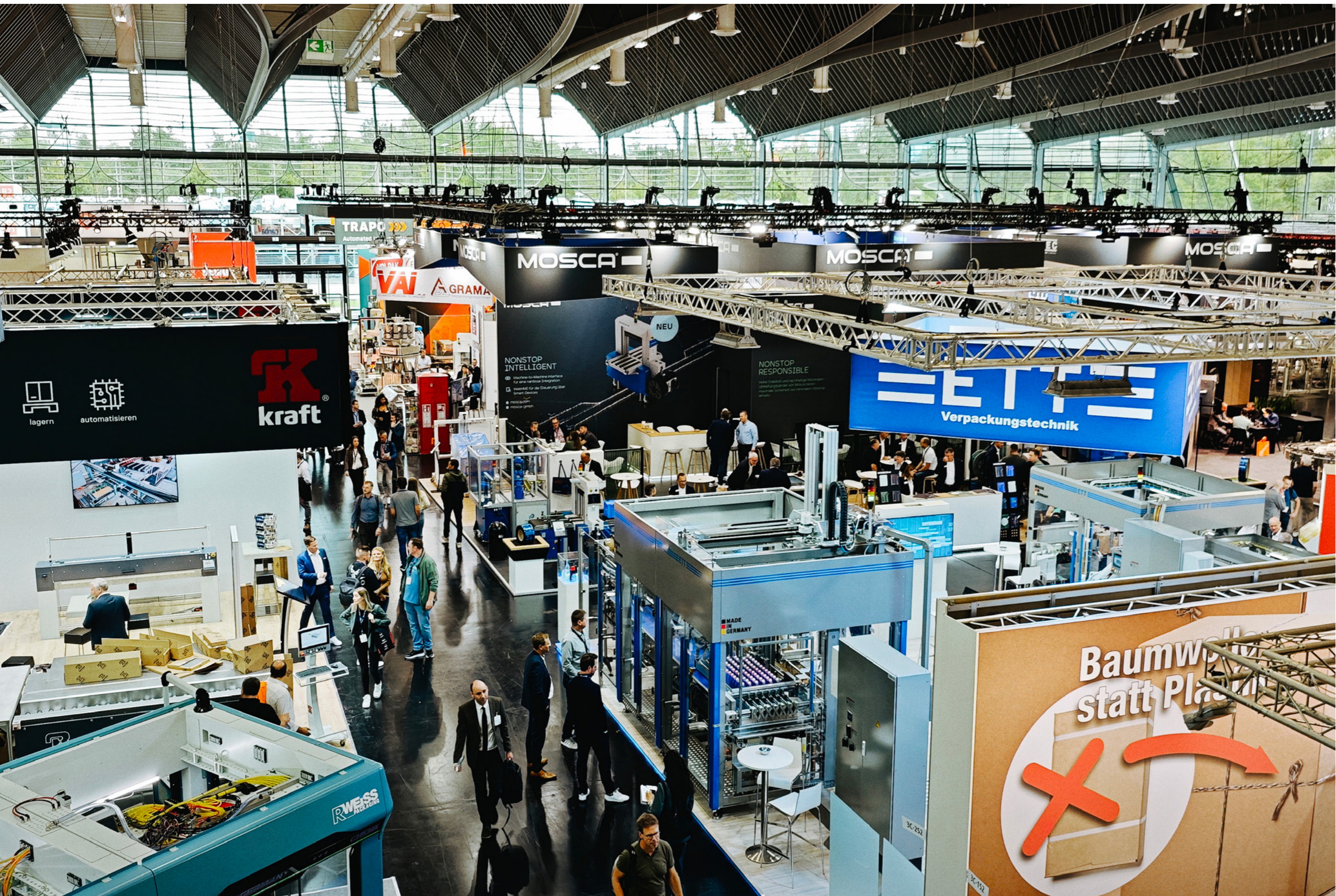
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sustainability.inometa.de



FACHPACK 2024

'Transition in Packaging'

FACHPACK 2024 showcased a packaging industry in transition: new EU legislation, sustainability and automation were ubiquitous topics at the exhibition stands and in the forums. Another trend: the industry is becoming more female and more diverse. With the launch of the 'Women4Packaging' network, FACHPACK is also making its contribution here. (p. 40-41)



Image source:
Nadine Bauernfeind



Westland

Faster colour changes, more efficient printing

At FACHPACK 2024, Westland Gummiwerke GmbH & Co. KG participated as a co-exhibitor at the shared stand of the expert alliance Print City. In an interview with PRO Flexconvert, Martin Drescher and Jörg Hinrichs discuss the advantages of the LotoTec-MRS inking rollers.

PRO Flexconvert: Mr Drescher, Mr Hinrichs, what is the Print City Alliance all about – and why is Westland involved?

Martin Drescher: Our primary goal at FACHPACK is to showcase our presence and provide a platform for our products. The Print City Alliance unites experts from leading companies in the printing and converting industry, allowing us to present ourselves as a strong collective – both here and at other trade fairs.

PRO Flexconvert: What product is the focus of your appearance at the exhibition here in Nuremberg?

M. Drescher: We are primarily showcasing our new generation of inking rollers, the LotoTec-MRS. This innovative coating system, which is available in different versions, offers exceptional chemical resistance and a mirror-smooth surface. At FACHPACK, we're presenting the version designed for offset printing, which simplifies cleaning, reduces waste, and provides unmatched stability during the production run.

Jörg Hinrichs: We've created a new generation of rollers for offset printing that allow for rapid cleaning, making post-wash cycles a thing of the past.

PRO Flexconvert: Would it be fair to say that this makes the entire process more sustainable?

J. Hinrichs: Absolutely! When changing from dark to light colours, it is often necessary to clean rollers in offset machines with cleaning pastes. This washing process is almost always no longer necessary with MRS rollers. So with this product, the user combines time savings with technical advantages – more stable emulsions and a more stable production run.

PRO Flexconvert: What has been the response to your new product at the trade fair so far?

J. Hinrichs: We have had a very positive response so far. Of course, FACHPACK is not necessarily the main trade fair for offset printers, but there is still a great deal of interest.

M. Drescher: With the LotoTec-MRS inking rollers, we are specifically addressing the needs of packaging printers who deal with frequent colour changes. Especially under demanding conditions, such as switching from reflex blue to process yellow, a printing unit equipped with these rollers is ready for use again after just a few sheets—without the need for additional re-washing. This reduces waste and lowers the consumption of water and cleaning agents.

PRO Flexconvert: Beyond the new LotoTec-MRS product, what role does packaging printing play for Westland as a whole?

M. Drescher: We are operating in an environment in which commercial printing has been in steady decline in recent years. The key factors here are digitisation and changes in the way information is consumed overall. Packaging printing is therefore becoming more important for Westland – not only in the offset sector, but also in the other fields we serve. These include flexo and gravure printing. We are also working with a number of packaging machine manufacturers on current development studies in digital printing.



Martin Drescher (left) and Jörg Hinrichs at the Westland stand at FACHPACK 2024



LEARN MORE

The new generation of LotoTec-MRS inking rollers, consisting of WEROGRAF-LT, WEROMIX-LT and WERO-UV-LT

LotoTec-MRS inking rollers

- » **Sealed roller surface:** The patented LotoTec coating maintains the dynamic and elastic properties of the ink roller and ensures exceptional chemical resistance, low surface tension and a smooth surface.
- » **Quick and easy to clean:** LotoTec-MRS inking rollers can be cleaned extremely quickly, especially when changing from dark to light colours. The usual post-washing is no longer necessary, which reduces the consumption of washing agents.
- » **Dimensionally stable:** Even when simultaneously printing with UV-curable and conventional offset inks, LotoTec-MRS inking rollers retain their shape. This allows for more precise adjustment and alignment of the rollers to the printing plate.
- » **Stable production run:** LotoTec MRS inking rollers provide a stable ink/water balance, enabling continuous printing stability. This results in less waste, which is particularly beneficial for users with small job lot sizes.

PRO Flexconvert: This year's FACHPACK has the motto 'Transition in Packaging'. We see a lot of innovations here that are related to sustainability – and we see that paper is increasingly replacing films. What role do these changes play in Westland's business?

M. Drescher: We are active in many different industries with Westland. We are seeing that the topic of recyclates is creating new challenges for our film customers. However, the situation is similar for coated paper. We can support both groups of customers and work with them on suitable solutions.

www.westland.eu
Image source: Martin Hirschmann, Westland

PRO flexconvert PODCAST

The Voice of Converting & Flextronics
with Martin Hirschmann

30 minutes of opinion, personality and debate.

Our podcast 'The Voice of Converting' is as entertaining and informative - essential for the key players in the Converting and Flextronics industry. Would you like to be our guest or place an audio ad in the podcast? **Get in touch with us!**

Martin.Hirschmann@m2n-media.com

PRO flextronics PODCAST



RK Print Coat Instruments Ltd

Flexo printed paper awareness

Many components and process variables can affect the ultimate quality of a finished product including the base stock itself. Consider paper. When specifying paper the printer or converter must take into account paper strength, base sheet uniformity, moisture content, smoothness, gloss, ink receptivity, brilliance, whiteness and coating specifications and perhaps much more; it depends of course on what is to be applied to the paper and what purpose the paper will be used for: labels or packaging or something else.

Printers and converters often say that given the right circumstance they favour paper over film. Paper is perceived as being the most environmentally acceptable material and there are generally fewer variables to contend with. That may or may not be the case. It is fair to say though that there are still enough compatibility issues and other disruptive problems to warrant care. The control of the web and precise tension regulation is critical. Process transients and inconsistencies affect registration, uniformity of inks and coatings, colour and graphics. By association productivity yields will decrease while waste will increase.

Based on the job requirements the printer or converter that prints, coats or laminates might focus on the strength, moisture resistance, opacity, etc., or the possibility for modification or inclusion in with another substrate or substrates: i.e. flexible pouches.

Strength of the paper is critical

The strength of the paper is of course critical when printing or converting and adding value. It must survive the various converting processes and in web fed processes the paper must be strong enough to withstand the rigours of unwinding and rewinding. Base uniformity is critical in both cross machine and longitudinal direction. Moisture content varies enormously from roll to roll, which may cause difficulties when feeding paper into a printing machine, coater or another process machine. Too much moisture can cause problems such as curl and can affect how the paper unrolls during processing. Brilliance and whiteness of paper are regarded as essential for some applications. Whiteness, depending on the opacity of the ink can affect colour appearance. The gloss of the paper can have a significant effect on ink gloss itself. However, not only does whiteness of stock vary from supplier to supplier it also varies across different rolls of the same stock. If inks of higher density are being used any variation in whiteness will be hidden. This won't be the case with certain inks used with flexo for example. Helpfully, a substrate can give visual clues as to what to expect. For instance, if the paper is glossy, normally it is a clay-coated product. A higher level of gloss gives the printer a better hold out of inks and theoretically better colour representation.

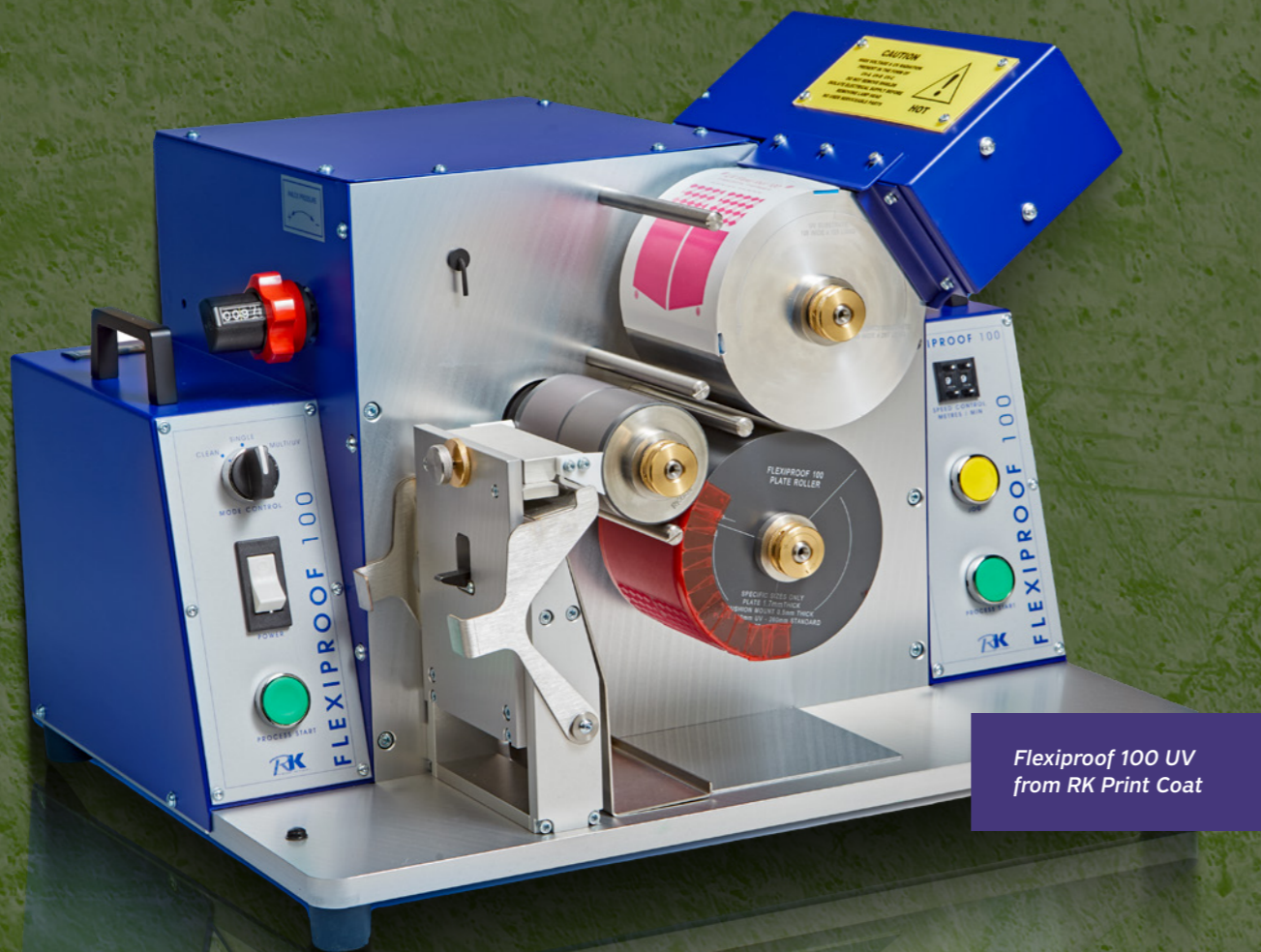
Ink receptivity

The ways in which a paper is finished or the way in which the paper is clay-coated can affect ink receptivity. If a paper is very porous and if at the microscopic level the fibres are not tightly locked, the ability to achieve a high level of gloss finish with an ink will be more difficult than if the fibres of the paper are locked together and the paper has a smooth surface. Paper manufacturers continue to develop new products or refine existing ones to compete with other materials and to meet environmental objectives. The various means of treatment, often involving optical brighteners and synthetic polymers provides significant performance and final product benefits but can cause ink/coating and sometimes, drying problems. Consistency of colour is critical and this of course applies whether the substrate being printed upon is paper or another medium. Consideration must be given to the visual properties of ink, which include colour, transparency or opacity and gloss. If we think seriously about colour we are mostly thinking of hue or shade; the strength or saturation, or chroma. The amount of pigment used can affect colour strength, while the type of vehicle used influences the hue and value of the ink colour. The colour of the substrate and the drying or absorption properties also impacts on final print colour, graphics and text.

Resolving issues thanks to quality control and monitoring

Monitoring and quality control equipment such as the FlexiProof family of colour communication or proofing devices enable users to highlight and work towards resolving issues surrounding the use of flexographic inks and substrates. Tests such as durability, flexibility, scratch and wear resistance; chemical resistance and much more can be carried out. At the same time regular colour matching samples can be made to ensure colour meets agreed standards and without the high levels of waste that would be made using a production press. For UV flexographic printers and converters and for consumable producers the FlexiProof UV enables users to easily simulate real world UV flexographic print conditions in the laboratory, pre-press department or elsewhere, economically and quickly without the need to resort to using a conventional full size production printing press. The FlexiProof UV and a version that incorporates LED or light emitting diodes are self-contained integrated devices that enable users to print and cure seamlessly, enabling them to detect blemishes and particularly pinholes which cannot be detected with a conventional UV conveyor.

Written by Tom Kerchiss, Chairman of RK Print Coat Instruments Ltd.
www.rkprint.com
Image source: RK Print Coat Instruments Ltd



Flexiproof 100 UV from RK Print Coat



Mondi

“We can already replace all simple PE plastic films with paper!”

At FACHPACK 2024, we had the opportunity to interview Falk Paulsen, Sales & Business Development Director Functional Paper & Films at Mondi. The global packaging and paper manufacturer has set itself ambitious sustainability targets.



Antonia Kaiser and Falk Paulsen at the Mondi stand during FACHPACK 2024

PRO Flexconvert: Mr Paulsen, what is Mondi's main focus here at FACHPACK?

Falk Paulsen: At this year's Fachpack we are showcasing our portfolio of sustainable packaging and paper solutions. This includes innovative solutions we have developed together with our customers - ranging e.g. from our new smooth-finished, brown kraft paper grade to recyclable functional barrier papers and mono-material pre-made plastic packaging.

PRO Flexconvert: You are increasingly relying on paper packaging to achieve your sustainability goals. Can you give us specific examples?

F. Paulsen: Papers offer a great many possibilities, especially thanks to finishing! One example is our FunctionalBarrier Paper 95/5 range, in which a product is given a very thin coating that results in very good sealing properties while also guaranteeing a light water vapour barrier.

All packaging machines that currently use plastic films have to weld and seal at the end. With our very thin 4g coating, we ensure that the current packaging systems can continue to be used with only slight modifications. As you can see, switching from plastic to paper packaging is very easy!

PRO Flexconvert: We can clearly observe here at your stand that the range of applications for paper packaging is constantly growing. What technical challenges do you still see?

F. Paulsen: We can already replace all simple PE plastic films with paper! Applications without barrier requirements include pasta, frozen products, screws, toys, and much more. The challenge arises when we need a grease barrier, for example, but the product should still be recyclable in the paper waste stream. A collaboration with our partner "traceless" has led to an interesting option here. It is fully compostable, but can also be disposed of in the paper stream. In addition to its sealing properties, it also provides an excellent grease barrier.


For packaging that requires an oxygen barrier, we are currently still relying on 80/20 solutions – that is, 80% paper and 20% plastic. We have already introduced recyclable solutions for these and are working on further increasing the paper share as much as possible. Incidentally, it's not just a matter of using thicker paper, but of actually reducing the plastic content! We expect to see further progress in this area in the years to come.

PRO Flexconvert: Is the demand for paper-based solutions that can replace film as strong as you would expect?

F. Paulsen: The demand is very strong! This is mainly due to brand owners and retail chains that have set themselves targets for plastic reduction. We have the right solutions to help them achieve these goals.

PRO Flexconvert: What role does plastic film still play in your strategy?

F. Paulsen: For example, certain food products as e.g. coffee or wet pet food require very high barriers that can only be achieved with plastic packaging. These should then be made out of mono-materials to be designed for recycling. At Mondi, we work closely with our customers to help them make the best decision related to material and format choices of their packaging.

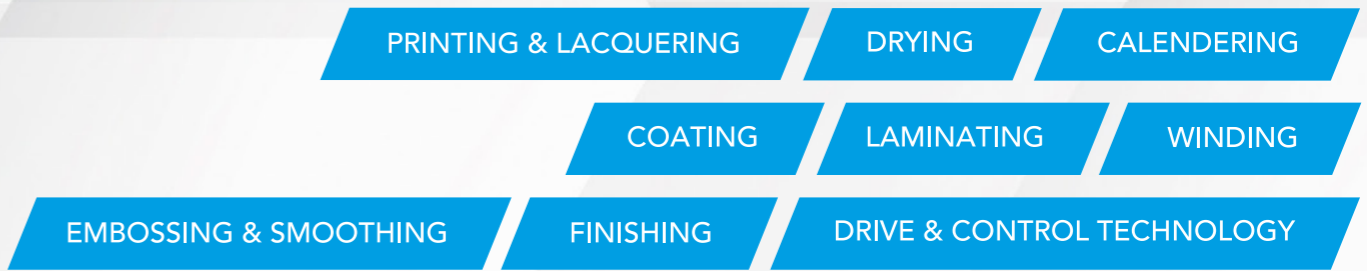
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 www.mondigroup.com
 Image source: Martin Hirschmann



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Integrals Power

Making lithium-ion batteries more sustainable

PRO Flexconvert sat down for an interview with Behnam Hormozi, founder and CEO of Integrals Power, a company focusing on next-generation lithium-ion and lithium metal battery materials.

PRO Flexconvert: Mr Hormozi, please introduce us to your company, Integrals Power!

Behnam Hormozi: Before launching Integrals Power, I was involved in the development of clean tech solutions for several years – in startups, but more importantly, also in bigger corporations. I always had that vision of offering a domestic supply chain for batching materials in the UK and Europe. This aspect has become more important than ever, given that about 90-95% of the market are currently being driven by China. For me, the fact that these materials were being outsourced from Asia predominantly, was quite alarming! Thus, I personally founded Integrals Power with the mission to develop low-cost, high-performance, and sustainable batching materials. If we break down the supply chain, we are situated in the mid-stream, which is the active material production. There are only a handful of companies that are doing what we are doing outside Asia. It's only been four years since we started out with a scale of a couple of grammes, all the way up to where we are today, which is a pilot line of 20 tonnes per year! In addition to that, we have secured six government-funded projects that have a total investment volume of up to about £5.5 million.



Behnam Hormozi



Cathode materials from Integrals Power

PRO Flexconvert: What exactly is it that you are working on in your pilot plant?

B. Hormozi: In a nutshell, we are working on a new version of the batching materials within the cathode, known as lithium-iron phosphate. Nowadays, lithium-iron phosphate (LFP) is being used within over 50% of electric vehicles sold on a yearly basis, and it's expected to even grow up to 75% market share over the next three years. More importantly, LFP, it is not a new material, meaning that it has been in this industry for over 20 years. However, the way we are doing it, meaning the way we are developing and improving this material, is quite unique in terms of its performance metrics, whether it's the capacity, the resistance, or the extreme temperature performance. Recently, we announced the next generation of LFP, which is called lithium iron manganese phosphate or LFMP. With this new solution, we are improving the range and the energy density of, in this case, an electric vehicle application by up to 20%. However, we do not have to increase the cost at a dollar per kilowatt hour. So ultimately, we do believe we are one of the only companies that has now achieved such results at such high content of manganese, which is 80%.

PRO Flexconvert: Let's talk about sustainability. You emphasise that you are banking on lithium-ion technology, which is sometimes being criticised in terms of environmental impact. What is your comment on that – and can you maybe also talk about sodium ion batteries, which are sometimes named as an alternative?

B. Hormozi: Yes, this is great point. Going back to lithium-ion, what I can see at this stage, is that there is always going to be a trade-off in terms of sustainability. We can only improve it. I don't think it is a binary factor to say, we have to stop using lithium-ion just because we believe that sustainability does not add up. Realistically, there is going to be a steady flow over the next decades that we can improve on in terms of sustainability metrics. More importantly, we have picked the right or the more sustainable alternative within that lithium-ion sector, which is LFP or lithium-iron phosphate. As an example, we have avoided the usage of cobalt and nickel, which are not only very toxic, but also raise concerns around child labour, as well as mining, recycling, and a shorter life cycle. All of that has been tackled by simply using LFP and now we are also trying to push the boundaries to just survive by this material. Sodium-ion batteries are potentially a great addition. However, lithium's nature is that it has a higher voltage profile compared to sodium. There will always be a massive challenge for sodium-ion batteries to achieve the same high performance as lithium-ion batteries. When we take a good look at the needs of our customers, we believe that lithium-ion will still be the right approach. For our sustainability approach, we are trying to avoid cobalt and nickel whenever possible. Nonetheless, sodium-ion batteries will be great alternatives for lower-end applications, whether it is energy storage or lower-end mobility. Ultimately, I think lithium-ion is the right solution, but within that category, there are still better ways of doing it and that's exactly what Integrals Power is about!

PRO Flexconvert: How can companies from the roll-to-roll converting sector support what Integrals Power is doing? Are you looking for technology exchange and collaborations?

B. Hormozi: Going back to the supply chain, we will ultimately have an end product that will be powder-shaped. The companies that you mentioned could potentially be our customers. They can buy these powders and then optimise their own technology in terms of the electric making. Ultimately, there's no point in having a high-performance material if you cannot convert that into a high performance electrode. We are open for discussions about collaboration if there's mutual added value.

PRO Flexconvert: Having launched your pilot plant in the UK, what are your next steps?

B. Hormozi: At the moment, we do have a list of major tier one suppliers that we are currently in discussions with. I think we have probably about five to ten partners lined up for the dispatch of the materials – and we will be looking into some, potentially strategic, partnerships that could stem from those discussions. The other big topic is the scale-up: At the moment, we believe a thousand tonnes per year in capacity could be the right approach for us as far as the scale is concerned. Once we achieve that scale, it will come down to what the customer needs. We are using a modular design; anything beyond a thousand tonnes per year comes down to duplication of a line over and over again. In simple terms, if we achieve a thousand tonnes per year, we can claim that it could be, if you like, a hundred thousand tonnes per year in capacity. As soon as we complete the scale, we can just replicate the fully modular line.

www.integralspower.co.uk
Image source: Integrals Power



Non-Stick

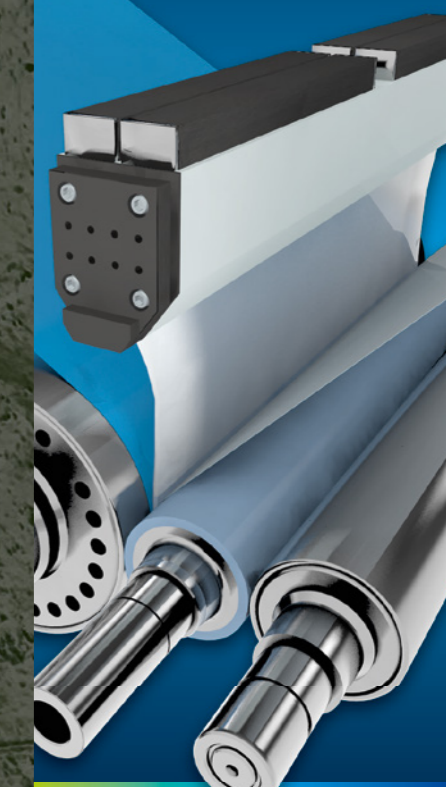


Low-Maintenance



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#TECHTIPP NO. 4

INOMETA GmbH

Sustainability and profitability in modern production

In a world where sustainability and economic efficiency are becoming increasingly important, INOMETA is setting new standards with its heating rollers, winding cores and its innovative INOid and INOlink products. This article highlights how the company, based in Herford, Germany, is creating both ecological and economic advantages through innovative technologies and intelligent product solutions.



INOMETA's electric heating roller is a prime example of technological innovation that increases energy efficiency in production. Unlike conventional heating rollers, which are based on liquid media such as oil or water, the INOMETA heating roller generates the required heat locally, using electrical energy directly within the roller. This minimises energy loss and ensures that the supplied energy almost completely corresponds to the required useful energy. This leads to a significant reduction in the overall energy requirement and thus to lower operating costs and a reduction in CO₂ emissions. Another advantage of INOMETA's heated roller is that it eliminates the risk of leaks that could contaminate the environment or the substrate. Furthermore, the elimination of oil-based heating media enables a more environmentally friendly recycling process. The heated roller is easy to install and saves space, as no storage tanks, pipes or pumps are required. The recognition of INOMETA's heated roller as a sustainable and economical solution was confirmed by the ICE Europe Award 2023.

Alternatives to conventional cardboard cores

INOMETA's WinCore series offers a sustainable alternative to conventional cardboard cores. Thanks to their durability and reusability, they help to reduce waste and conserve resources. A single aluminium winding core can replace up to 500 cardboard cores and can be reused up to 1,000 times. This long lifespan contributes to sustainability and cost-effectiveness and significantly reduces the ecological footprint of production processes.

The use of WinCore winding cores is a clear commitment to sustainable production methods and shows how productivity and environmental awareness can go hand in hand.



A winding core from the WinCore series

Digital platform for product data

INOMETA is not only committed to innovative developments in the field of hardware but is also getting involved in digital solutions for the first time with INOid. With this innovation, INOMETA provides a digital platform that enables efficient management and quick access to product data. The system helps companies optimise their processes and minimise downtime and errors. This results in significant cost savings. INOid also contributes to sustainability by reducing paper consumption and the need for physical documentation. By using QR codes and RFID tags, INOid enables fast and reliable access to product data, which in turn increases efficiency. The intuitive user interface and easy integration into existing systems are another highlight of INOid. This strategic expansion of the product portfolio underlines the company's commitment to being a leader in the technology industry and continuously breaking new ground to meet the demands of an ever-changing market.



INOid can efficiently manage product data

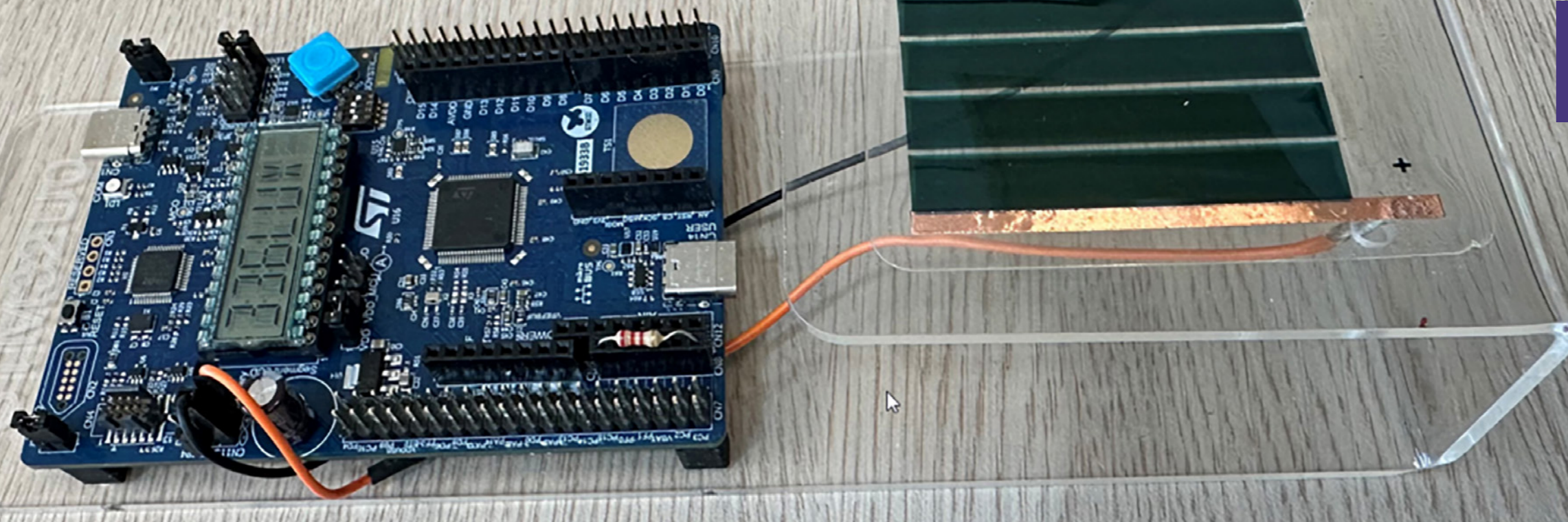
Air supply system for flexographic printing

INOlink, INOMETA's air supply system for flexographic printing, is another innovation that reduces compressed air consumption in the printing unit by up to 80%. This reduction leads to significant savings in operating costs and thus to a higher profitability of the printing process. Furthermore, it also results in a reduction of CO₂ emissions and an optimisation of occupational safety by reducing noise emissions by up to 10 dB during the set-up process. The prevention of air turbulence in the printing unit also helps to prevent contamination and sustainably improves print quality. INOlink is backwards compatible with the existing INOflex product portfolio, enabling a step-by-step transition.

Conclusion

With its products – heating rollers, winding cores, INOlink and INOid – INOMETA shows how sustainability and profitability can go hand in hand. By using energy-efficient technologies, reusable materials and intelligent networking solutions, INOMETA is making a significant contribution to reducing the consumption of resources and costs. The future of production lies in achieving a balance between economic success and ecological responsibility. With its products, INOMETA demonstrates that this balance is achievable and sets new standards for a sustainable industry. By using INOMETA's innovative solutions, companies can not only reduce their costs, but also strengthen their market position and contribute to the protection of our planet.

www.inometa.de
Image source: INOMETA



LAYER is fully compatible with STMicroelectronics' latest ultra-low power microcontrollers

Dracula Technologies

“Our goal is to establish our LAYER technology as a benchmark in light energy harvesting!”

PRO Flexconvert sat down for an interview with Brice Cruchon, CEO of Dracula Technologies, highlighting the new OPV factory of his company in Valence, France.

PRO Flexconvert: Mr Cruchon, Dracula Technologies is ramping up its production capacities. Can you discuss the significance of the new Green Micropower OPV Factory for both your company and the OPV sector as a whole?

Brice Cruchon: According to Markets & Markets' June 2024 study on energy harvesting systems, the market for light energy harvesting is projected to reach €450 million by 2028, with a CAGR of 10.8%. Organic Photovoltaics (OPV) stands out as a key solution, particularly due to its efficiency in low-light conditions, which makes battery maintenance unnecessary. For Dracula Technologies, increasing our production capacity to 150 million cm² per year per shift positions us to meet these market demands effectively. LAYER is an OPV printed thin film that harvests ambient light to provide a continuous, renewable power source for low-power IoT devices. This energy-harvesting solution significantly reduces reliance on traditional batteries, thus minimising operational costs and environmental impact, which are key considerations when evaluating the Total Cost of Ownership (TCO) of large IoT deployments. Our goal is to establish our LAYER technology as a benchmark in light energy harvesting!

PRO Flexconvert: How far along are we in the full commercialisation of OPV? What still needs to be done, and how can it compete with traditional photovoltaics, especially considering Dracula's focus on indoor applications?

B. Cruchon: At Dracula Technologies, we've reached a crucial milestone in scaling up production, validated by an audit from SEMTECH. This achievement allows us to integrate our OPV LAYER modules into our customers' products at high volumes, marking the next phase after successfully completing the sample, prototype, and qualification series stages. Traditional PV systems are primarily designed for outdoor applications, such as photovoltaic farms. In contrast, our LAYER modules are optimised for indoor environments, addressing sensor maintenance issues and ensuring consistent information transmission. LAYER can reduce maintenance costs by 60% to 80%, depending on the application, across smart homes, smart buildings, and asset tracking. Our objective isn't to compete with traditional photovoltaics but to generate sufficient energy in low-light settings, sometimes as low as 10 lux.



PRO Flexconvert: At CES, you stated that „battery-based electronics should have a 100% sustainable energy source.“ Can you elaborate on the sustainability benefits of Dracula Technologies' LAYER devices?

- B. Cruchon:** Several regulations are pushing towards reducing or even eliminating non-rechargeable batteries in IoT devices. The sustainability advantages of our LAYER modules are significant:
- » They are free from rare earths and heavy metals, using only organic materials.
 - » Less than 1 gram of material is required to produce 1 m².
 - » A 40% to 80% reduction in TCO over 10 years, depending on the use case (see TCO white paper to download: <https://dracula-technologies.com/download/28756/?tmstv=1709830049>).

Several factors contribute to the TCO of solutions using energy harvesting instead of traditional batteries. A few of these are:

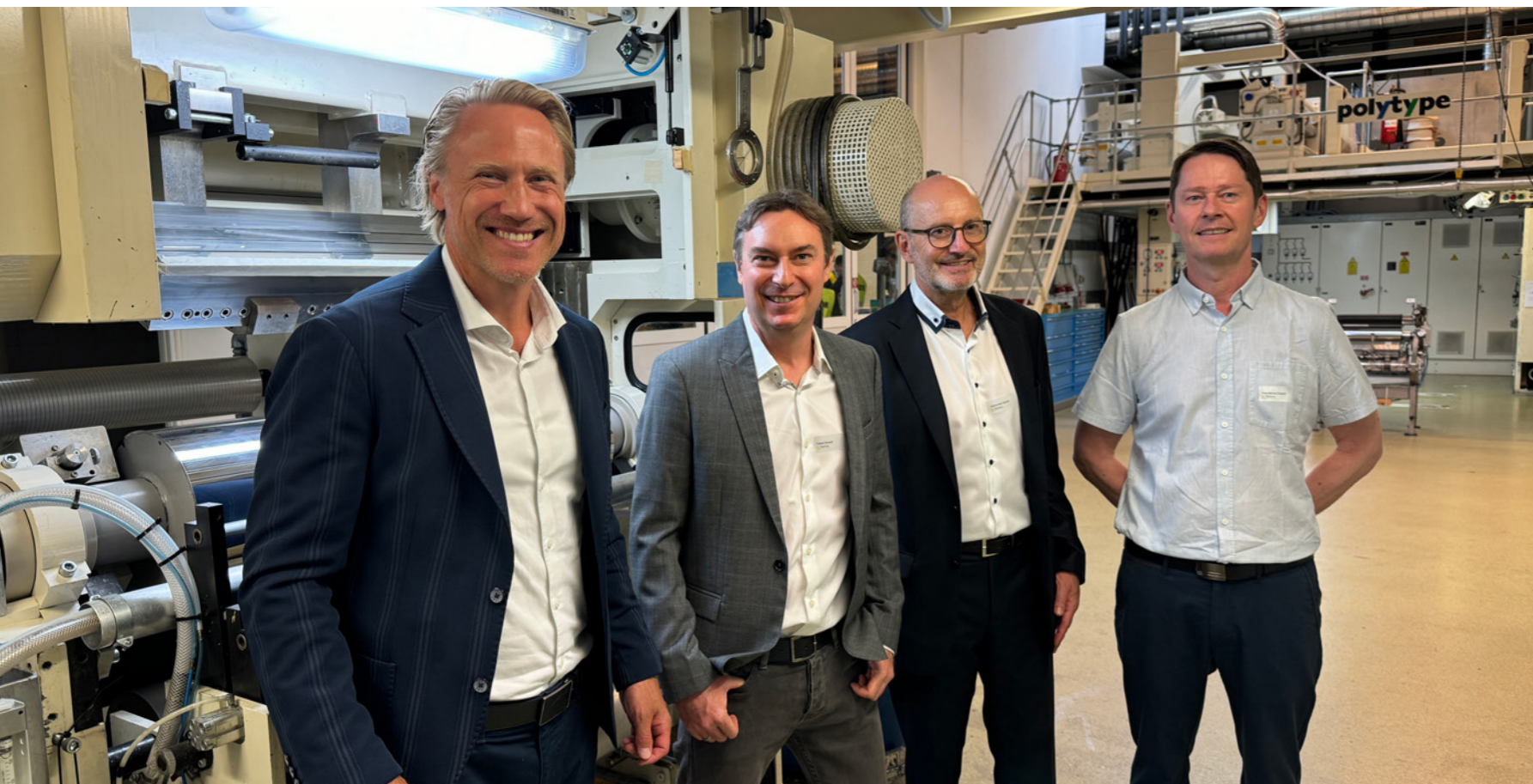
- a. **Device Costs:** Eliminates battery replacement, reducing installation, maintenance, and labour expenses.
- b. **Energy Efficiency:** LAYER technology improves energy efficiency, lowering consumption and operational costs.
- c. **Scalability & Longevity:** The long lifespan of OPV-powered devices enhances scalability, reducing the need for frequent replacements and minimising ongoing costs over time.

- » A carbon footprint of just 3 kg CO₂ equivalent per m².
- » LAYER modules are recyclable.

PRO Flexconvert: With the new OPV Factory operational, what's next for Dracula Technologies? What are your targets for the near and mid-term future?

B. Cruchon: With our new OPV factory now up and running, our immediate objective is to replicate the initial printing line for our OPV LAYER modules to scale up production and meet customer demands. In the mid-term, we aim to establish industrial partnerships to accelerate global deployment. Concurrently, we will continue our R&D efforts to develop more environmentally friendly and integrated light energy harvesting solutions.

www.dracula-technologies.com
Image source: Dracula Technologies



The guests at Barrier Day 2024 experienced coating expertise up close

Matthews Engineering – Polytype Converting

Barrier papers – a success story in the packaging sector

On 5 September, PRO Flexconvert accepted an invitation from Matthews Engineering to visit its Swiss site in Fribourg. On-site, the Matthews brand Polytype Converting presented its comprehensive services and capacities in the field of barrier coating technologies on paper.

The Polytype plant in Fribourg has existed since 1962 – the company is considered an ‘early mover’ in today’s packaging and converting world. Building on this tradition, the Swiss machine experts now offer an R&D centre and pilot plant with a worldwide reputation that specialises in high-precision systems and high-speed machines. In the packaging segment, Polytype Converting’s products include packaging papers and films, special adhesive tapes, release liners and labelstock.

At the opening of ‘Barrier Day 2024’, Brandon Babe, Senior Vice President at Matthews Engineering, addressed the customers, partners and interested parties who had travelled to Fribourg from all over the world: “We are driven by the desire to move innovation forward together with our customers and partners. We want to bring the industry together and match your needs with our engineering expertise.”

Customised equipment

The lectures were hosted by Esa-Matti Aalto, Senior Vice President and General Manager Coating & Converting Industries, Matthews Engineering. He emphasised: “We can tailor the production equipment exactly to our customers’ needs. We have around 50 different coating methods at our disposal and see ourselves as a ‘one-stop solution’ for our customers.” Norbert Runn, Sales Manager Coating & Converting Industries, Polytype Converting, then gave an overview of the opportunities and challenges in the barrier coatings segment on paper. “Sustainable and recyclable packaging materials are the most important drivers of innovation for barrier coating technologies in roll-to-roll processes for the packaging industry,” he explained at the beginning of his presentation. While the demand for packaging materials is still growing, the desire for greater sustainability is the

challenge that all parties involved are facing. Runn emphasised that barrier coatings on paper can replace films made from fossil raw materials and ensure cost-efficient production. “Many trials with barrier coatings and joint development processes on our pilot lines have already led to good results,” said Runn.

Suppliers of barrier chemicals showcase their expertise

The second part of the programme focused on Polytype Converting’s suppliers and partners, who are working with the machine manufacturer on suitable formulations for

barrier chemicals. Representatives from Mitsui Chemicals, BASF and Resino Inks were on hand. During a tour of Polytype Converting’s pilot plant, the guests at Barrier Day 2024 were then able to experience the company’s expertise for themselves. The day was rounded off with an exclusive dinner in the picturesque town centre of Fribourg.

www.matthews-engineering.com
www.polytype-converting.com
 Image source: Martin Hirschmann

Intelligent Static Control Technology

Sales@fraser-antistatic.co.uk
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- INCREASE PRODUCTION EFFICIENCY
- IMPROVE QUALITY & SAFETY
- COST OPTIMISE YOUR MANUFACTURING

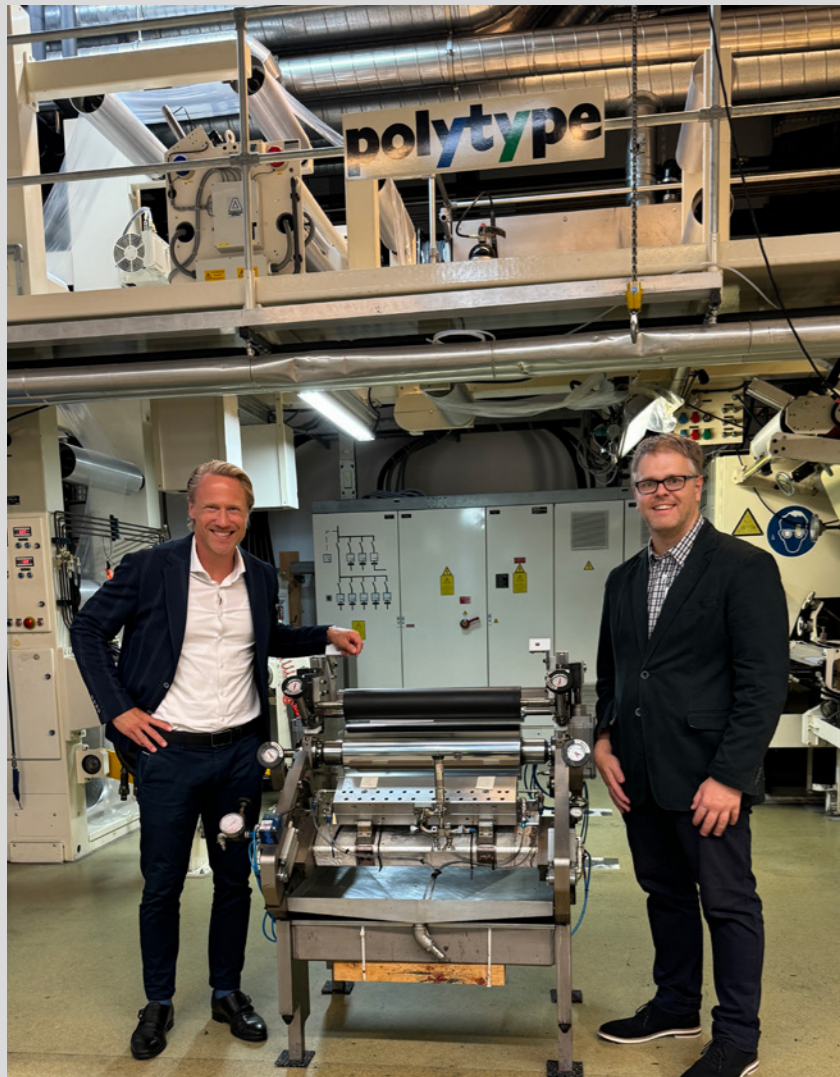
Tell us you read our Editorial in PRO Flexconvert and we’ll give you a free consultation to discuss your static problems!

Exclusive interview with Esa-Matti Aalto

At Barrier Day 2024, we had the opportunity for a 1:1 interview with Esa-Matti Aalto, SVP and General Manager Coating & Converting Industries at Matthews Engineering.

PRO Flexconvert: Mr Aalto, why was now the right time for an open house on the subject of barrier coatings on paper?

Esa-Matti Aalto: We have been working with well-known paper manufacturers and chemical suppliers here in Fribourg since 2016. Since then, we have successfully launched many developments on the market and are experiencing ever-increasing demand from the industry. Chemical suppliers are also seeking contact with us because they want access to the converters. This triad of the paper industry, the chemical sector and mechanical engineering gave us the idea of bringing together everyone involved here in Fribourg. This location is, so to speak, the epicentre or birthplace of many products that are now very well established on the market. The event helps us to bring together the interest groups and to look beyond our own horizons.



Esa-Matti Aalto (left) and Martin Hirschmann at the technical centre at Polytype Converting

PRO Flexconvert: The presentations today emphasised how much the packaging market as a whole is changing. What strategies do you derive from this?

E.-M. Aalto: Legislation, both nationally and at the EU and global level, is increasingly geared towards sustainability. Both types of packaging – plastic and paper – have their place. We will continue to serve both segments. However, we are striving to cover the topic of sustainability as comprehensively as possible. Paper plays a crucial role in this as a renewable raw material that is highly recyclable. But that doesn't mean we are neglecting the plastics industry. On the contrary, there will continue to be applications that cannot be achieved with paper.

PRO Flexconvert: It is striking that the chemical industry is very strongly represented at Barrier Day – including their own presentations. How can we imagine these partnerships in detail?

E.-M. Aalto: We have real technology centres here at the Fribourg site, but also in Bocholt, which are not exclusively for our customers to test machine configurations. These are also development centres. Suppliers of chemicals come to us explicitly to test their formulations on our machines. We are talking about partnerships that have grown over decades in some cases. We ourselves are always seeking this exchange with the chemical industry in order to be able to test the latest configurations and applications that may have a promising future ahead of them.

PRO Flexconvert: In which segments do the customers you have invited today operate?

E.-M. Aalto: We have a very heterogeneous structure at Barrier Day 2024, which I would describe as very positive. There are packaging manufacturers, some of whom are also paper producers. In addition, there are some newcomers who want to take a closer look at our portfolio in order to possibly launch new products.

Image source: Martin Hirschmann

Vetaphone

Top quality coating and laminating

Kevin McKell, CSO at Vetaphone, explains why surface treatment is key to achieving success in the sector.

In the fiercely competitive retail landscape, the significance of corona surface treatment in converting processes cannot be ignored. Brand owners striving to sway consumer preferences recognise that high-quality images and presentation are non-negotiable. To achieve the best shelf appeal, packaging quality is vital. This is where converting machine and equipment manufacturers step in, delivering top-notch solutions that ensure premium packaging and elevate a product's chances of success on the market.

Ensuring secure adhesion

In the realm of packaging conversion, the process of converting involves working with non-absorbent substrates like film, foil, or metallised paper and board. Prior to utilisation with inks, varnishes, lacquers, lamination, or other converting techniques, these substrates must undergo surface treatment to ensure a secure adhesion. Achieving a consistently high-quality finish is paramount in this endeavour. For this purpose, converting machinery and web converting equipment play a pivotal role in facilitating the surface treatment process, resulting in impeccable end products. One of the pleasures of being a pioneer in any field is the knowledge it brings with it. This provides a deep understanding of the technology involved and its operational impact on the marketplace. But being a pioneer also creates a duty to distribute this knowledge and expertise because only when

people fully understand the technology can they begin to appreciate the benefits it can offer them in their own business.

Transparency is crucial

At Vetaphone, we believe strongly in transparency so that our knowledge can be shared, and we invest heavily in promoting the subject of surface treatment as a generic technique. We do this because we know that explaining what it is, how it works, and why you need it, will allow you to make a rational and informed decision about the right product to buy. Surface treatment may be an ancillary process to the main event, but the part it plays is a vital one in the overall success of the operation. This is why we take our educational responsibilities very seriously, whether demonstrating our technology at our Test-Lab and demonstration centre in Kolding or out in the field at exhibitions and seminars. We also place great importance on tuition and instruction time on-site with our customers to ensure they are fully conversant with our product and know exactly how it functions. Understanding the role that surface tension plays in adhesion, and the various requirements that different substrates must have to achieve their best performance, equips companies with both the technology and technical knowhow that will place a Corona or Plasma system at the heart of their production process. To many in our industry, surface treatment is a necessary component that once installed and powered-up is largely forgotten. Our mission is to demonstrate the unique controllability that



Kevin McKell is Chief Sales Officer at Vetaphone

our systems offer, which allows customers to fine-tune their production process. We know the coating production environment. This demands specialist equipment and in-depth knowhow from the people who design and manufacture it.

Reliability and performance

With Vetaphone Corona treater coating systems, you can be sure that all your demands for reliability and performance at high-speed will be met, including the challenging specifications required for pull stations. Our Corona systems feature pneumatically activated electrode assemblies that pivot away to allow easy access for webbing up. You can also specify a quick retraction system to protect the electrode cartridge, and this will prolong the electrode's working lifetime. Trust us to meet challenging specifications for pull stations with our top-notch Corona coating machines. If you are running metallised substrates at speeds over 450m/min (1475ft/min) then Vetaphone's unique DHP system will protect the substrate from damage and prevent the creation of pin holes. It also reduces the internal current consumption for more cost-efficient production – especially important at a time of rising power costs. In short, whatever the need for surface treatment in your production process, we have the most experience and background knowledge in the market and will be very pleased to share it with you.



Vetaphone's C station is the corona treater specially developed for the coating and laminating sector

www.vetaphone.com
Image source: Vetaphone

Coatema Coating Machinery GmbH

Pilot coaters as part of the 'lab2fab' vision

Coating and printing technologies in new emerging markets like batteries, fuel cells, electrolysers, solar and printed electronics are advancing rapidly, and Coatema is at the forefront of providing specialised and standardised solutions for pilot equipment that meet both research and production requirements. As a leading German supplier, Coatema offers a comprehensive range of pilot systems designed specifically for the coating and printing industries.

This article will provide an in-depth technical analysis of their pilot equipment, focusing on the versatility and advanced features that support both manufacturing and research applications.

Understanding pilot equipment in coating and printing

Pilot equipment serves as a crucial link between laboratory research and full-scale production. In coating and printing applications, pilot systems allow manufacturers to test and refine processes before scaling up, ensuring consistent quality and efficiency while reducing risks. Coatema's pilot solutions are engineered to provide scalability with high precision, flexibility and modularity the company demonstrates with systems like the Click&Coat pilot platform.



Coatema's Easycoater

Scaling up technology from a low Technology Readiness Level (TRL) to a high TRL is a complex process requiring careful planning, reliable pilot equipment, and thorough testing. In the context of coating equipment, successful scaling involves transitioning from small-scale lab experiments to pilot-scale trials and ultimately to full production. This progression requires addressing several critical factors:

1. Process validation at low TRL levels: At early TRL stages (TRL 1-3), the focus is on developing a fundamental understanding of the coating process, including material properties, coating techniques, and initial feasibility. During these stages, Coatema's tabletop and lab equipment, like the Easycoater and Smartcoater enables researchers to experiment with different coating heads, substrates, and drying mechanisms to validate core concepts.

2. Parameter optimisation and repeatability: At mid-range TRL levels (TRL 4-6), it becomes essential to optimise process parameters to ensure consistent coating quality. Coatema's pilot systems like the Basecoater and Click&Coat offer precise control over variables such as coating thickness, drying temperature, and substrate tension, which allows for repeatable results. This stage involves iterative testing to fine-tune the process and meet quality and performance requirements. Here, inline quality control systems like thickness measurement, optical inspection, XRF and more are integrated.

3. Scaling equipment flexibility: For higher TRL levels (TRL 7-9), the challenge is adapting the optimised process for a production environment. Coatema's modular pilot equipment is designed to facilitate this transition by providing scalability and flexibility. The ability to integrate multiple coating technologies on a single platform ensures that processes developed at the pilot scale can be adjusted for larger production lines without significant reconfiguration. Here, a number of Coatema platforms like the Click&Coat are used for pre and production in tech markets like fuel cells and electrolysers for the green hydrogen economy.

4. Risk mitigation and troubleshooting: Pilot equipment is essential for identifying and mitigating risks before transitioning to full-scale production. Coatema's systems enable real-time monitoring, allowing operators to detect and address issues early in the process. By simulating production conditions at the pilot scale, manufacturers can reduce the likelihood of encountering problems during large-scale manufacturing.

Flexible organic photovoltaic cells



Coatema's range of pilot coating systems

Coatema's pilot equipment lineup includes an extensive selection of coating and printing systems that can accommodate a wide array of substrates and processes. Their pilot coaters are known for modularity, enabling researchers and engineers to combine different coating techniques on a single platform. Whether working with slot die coating, knife-over-roll, or spray coating, Coatema systems offer the adaptability to handle a variety of materials, from foils and textiles to paper and specialty films.

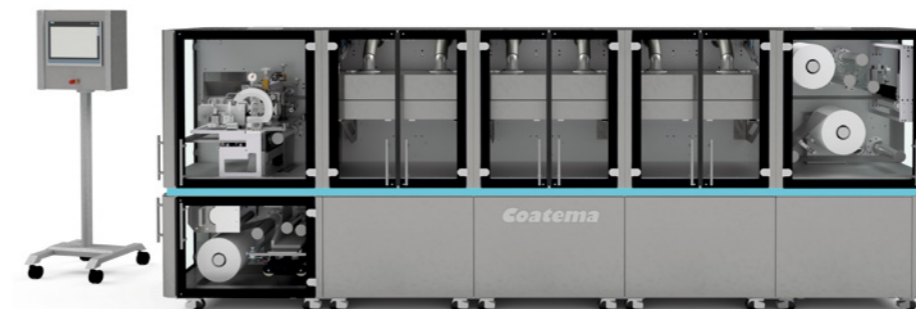
The Easycoater is an entry-level pilot coater that is ideal for research and small-scale production. It is designed for versatility and ease of use, allowing operators to quickly change coating techniques and substrates. The Easycoater supports multiple coating methods, including knife-over-roll, slot die, and gravure coating. This system is particularly well-suited for universities and research institutions that require a flexible yet straightforward coating solution for experimental purposes.

The Smartcoater is a highly adaptable pilot coater that offers advanced control features and the ability to handle a broad range of coating techniques. It is designed for R&D as well as pilot production, providing enhanced precision and repeatability. The Smartcoater can be equipped with various coating heads, drying units, and laminating modules, making it an excellent choice for scaling up processes from the laboratory to pilot scale. Its modular design ensures that users can configure the system to meet specific requirements, whether they are working with functional coatings, printed electronics, or advanced materials.

The Click&Coat system represents Coatema's most versatile and modular pilot coating solution. It is designed with a unique modular platform that allows users to „click“ different coating and printing modules together, creating a fully customised pilot line. The Click&Coat system can integrate multiple coating techniques, printing units, and drying systems, making it ideal for multi-step processes and complex material development. This flexibility makes Click&Coat an excellent choice for industries working on advanced materials, printed electronics, and multi-layer functional coatings. The system's modularity also ensures that it can easily be adapted to new projects, providing a future-proof solution for evolving R&D needs.

5. Data collection and process transfer: Effective scale-up also requires the transfer of process knowledge. Coatema's digital interface solutions facilitate data collection throughout the pilot stage, ensuring that critical process information is documented and available to guide the transition to full production. This data-driven approach helps maintain consistency and quality as the process scales up. Here, the use of IoT gateways, IPC systems and more to get the collected data from the machine into the cloud, the use of AI to directly analyse and control production parameters and in the final layout to provide coating as a service in the long run are part of a number of German and European funded projects that Coatema is part of.

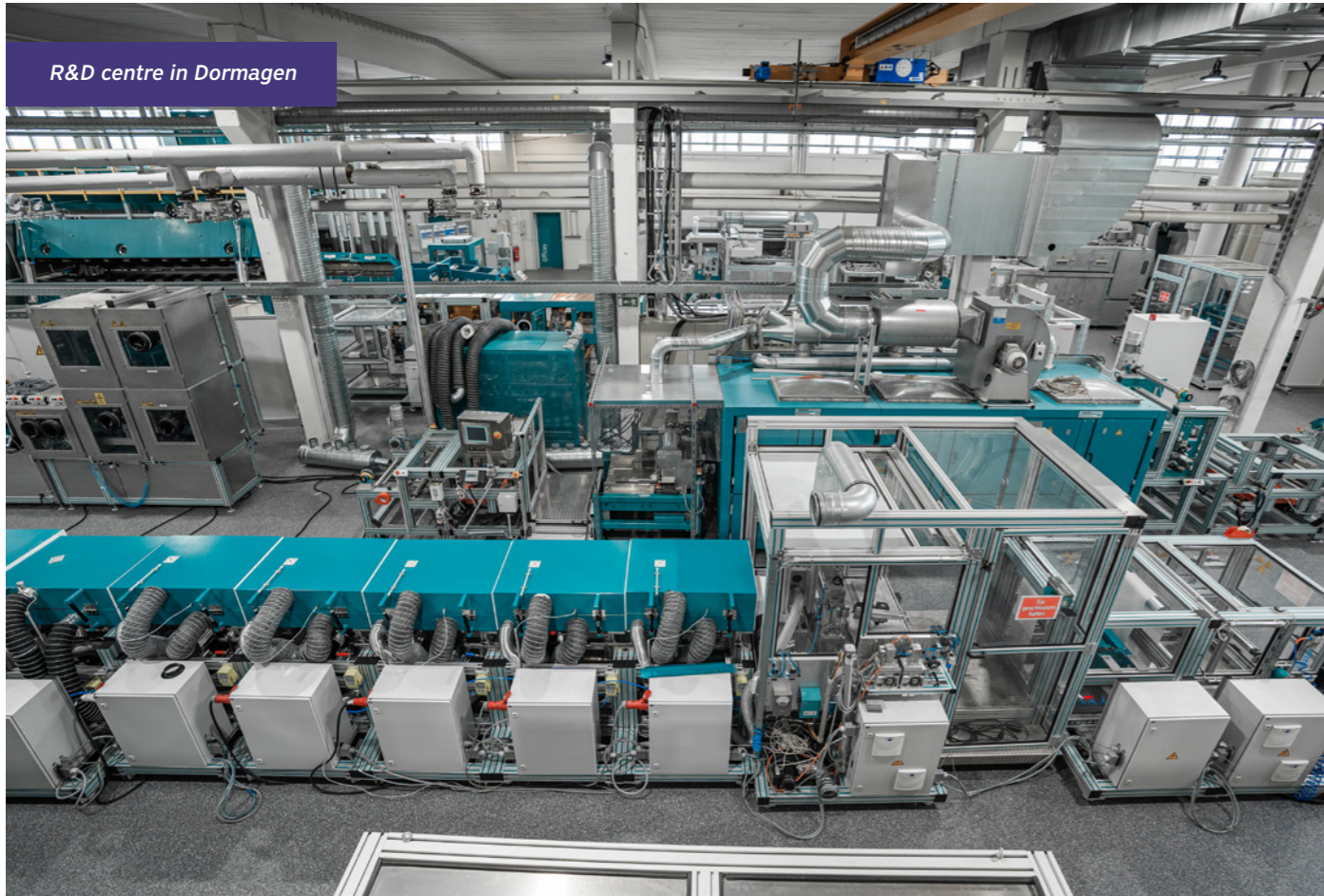
By addressing these key aspects, Coatema's pilot equipment serves as an essential tool in bridging the gap between laboratory research and industrial-scale production, providing the flexibility and precision needed to move technologies from concept to commercialisation.



Coatema's Smart Coater



Click&Coat



R&D centre in Dormagen

Advanced digital printing solutions

In addition to the coating technologies, Coatema also provides sophisticated pilot-scale printing systems. Their pilot printing units support several printing methods, including gravure, flexographic, screen printing, inkjet, and Laser-Induced Forward Transfer (LIFT). With these digital methods, lot size one, which refers to the production of individualised products in small quantities, often as low as a single unit is possible. This helps to reduce the carbon footprint by minimising material waste and energy consumption. Since the process is highly precise and tailored, it avoids overproduction and reduces the need for large inventories.

Inkjet printing is particularly suitable for applications requiring high precision and the ability to deposit small volumes of functional materials. It is widely used in printed electronics and biomedical devices where exact placement and material conservation are critical. The digital nature of inkjet printing also supports rapid iteration, making it ideal for R&D environments.

Laser-Induced Forward Transfer (LIFT) is an advanced technology that enables precise material transfer using a laser to apply the coating material onto the substrate. This technique is highly effective for depositing sensitive or viscous materials without direct contact, making it valuable for prototyping in advanced electronics and other high-tech applications.

Innovation and industry applications

Coatema's pilot systems are known for their role in advancing research and development in industries such as photovoltaics, energy storage, and printed electronics. The combination of coating and printing capabilities enables rapid prototyping of cutting-edge technologies—all on a single system. This versatility not only speeds up the development cycle but also allows for a seamless transition from lab to production. One of the standout innovations in Coatema's portfolio is the inclusion of digital interface solutions that allow easy data collection and remote operation, facilitating a more streamlined R&D workflow. Researchers can control parameters, collect process data, and analyse results to optimise their coatings and prints—all while minimising waste and production costs.

Coatema is also at the forefront of the integration of laser drying technology, which provides a more energy-efficient and precise drying solution for sensitive coatings. This innovation reduces drying time significantly and helps maintain the quality of delicate materials. In collaboration with its sister company Drytec, Coatema is developing new flotation dryers for pilot equipment. These dryers are designed to offer superior drying efficiency and uniformity, especially for sensitive substrates, enhancing the quality and consistency of coated and printed products. Integration of other technologies like spatial ALD, UV nano imprint, thermal nano imprint and the inline integration of spectroscopy and other technologies are part of the work of the R&D projects team and are demonstrated in the Coatema R&D centre or at cooperation partners in technology clusters all over the globe.



www.coatema.com

Image source: Coatema Coating Machinery GmbH

Neschen Coating GmbH

135 years of coating expertise

Neschen Coating GmbH celebrates 135 years of innovation and growth, marking a significant milestone in its journey from a small local business to an internationally recognised leader in the self-adhesive media and laminating industry. This anniversary highlights Neschen's long-standing commitment to quality, adaptability and future-oriented innovation, which have shaped the company's continued success.

Founded in 1889 by pharmacist Georg König as a small plaster factory, Neschen quickly became a pioneer in adhesive film production, notably with the "Bückerburger Hühneraugenpflaster" (corn plaster), a product that established its market foothold. Over time, the company expanded its expertise, moving into the production of self-adhesive films for book protection and eventually developing solutions for large-format printing and graphic displays. Neschen's early products, like filmolux and typoplast, laid the foundation for its expansion into international markets and its position as a global leader.



The company headquarters of Neschen Coating

Hans Neschen: the man who had the idea

A new chapter in the company's history began when Hans Neschen joined in 1946, bringing with him a vision for the future. Under his leadership, Neschen shifted focus to self-adhesive films for book protection, launching products such as the book protection film filmolux and the mounting film gudy, which became cornerstones of the company's success. Hans Neschen later renamed the company after himself, and his forward-thinking approach and dedication to innovation continue to shape its direction today.

In a fast-changing market where sustainability and ease of use are increasingly critical, Neschen has maintained its leadership by consistently responding to customer needs. The easy dot adhesive technology revolutionised self-adhesive media with its bubble-free, user-friendly design. Widely used in retail, exhibitions, and public spaces, easy dot offers flexible, cost-effective, and environmentally friendly solutions for quick installations across various surfaces.

Beyond easy dot, Neschen's product range includes book protection films, graphic media, and functional coatings, serving industries such as visual communication, print, and document management. This diverse portfolio allows Neschen to meet the needs of customers worldwide, from large-scale advertising to archival preservation.

Building on this success, Neschen recently introduced easy dot PET silver L-UV, a PVC-free variant with a mirror effect, catering to the demand for sustainable yet visually impactful solutions in advertising and creative displays.

Innovating for the future

Recent milestones, such as advancements in sustainable materials, underscore the company's commitment to environmental stewardship and industry leadership. With a focus on balancing high-value products and eco-friendly practices, Neschen is poised to remain a major player in the global marketplace, driving future innovation and growth.



www.neschen.com

Image source: Neschen Coating GmbH

Meech International

Controlling static and contamination on converting lines

Static control and web cleaning systems play a vital role in the converting and related industries. Their advanced capability in removing contamination from webs prevents production and waste-related issues, making them essential in the delivery of high-quality products.

There are two main reasons a web attracts dust, dirt and assorted particles – the boundary layer created by any moving web, and the generation of static charges. The boundary layer is caused by the ambient air that the web drags along when in motion. It draws contamination to the substrate, trapping it either beneath the layer or onto the web's surface – or holding it within the layer. Static charges, meanwhile, can be generated via fast moving web rolls that interact with equipment parts causing friction, by the separation of the roll as it unwinds, or through induction from surrounding machinery.

Untreated, the presence of static on a web can attract nearby and airborne particles to its surface, which can cause a myriad of problems during and post production. One such example is compromised product appearance, with print work appearing faded or even contamination becoming trapped between the layers of film. However, it is not just the web itself that can suffer the consequences of contamination – machinery that the tainted web passes by or through can pick up dust and dirt, which can lead to clogs and breakdowns and subsequent maintenance call outs. Static can also pose a potentially serious health and safety risk to staff.

Static control solutions

Active static control provides the most effective means of neutralising charges. This technology uses ionisation, or ionised air, whereby a voltage is fed to an array of emitter pins mounted on an ionising bar, creating a high-energy "cloud" of positive and negative ions. Any statically charged surface, of either polarity, passing close to the cloud is quickly neutralised. Implementing static control after the unwinding process and just prior to any printing or packaging forming can allow for maximum productivity and a reduced possibility of wastage and maintenance issues. Advances in recent years have led to the arrival of high-powered pulsed DC powered systems; an example being Meech's Hyperion range, which comes in a variety of formats to suit short, medium and long-range applications. Built to last, these ionisation bars are more resilient to build up and even provide feedback on their performance. Meech's SmartControl is an example of an advanced system that allows operators to see the performance information of the static control devices on a local user-friendly display, such as a mobile phone, tablet, touch screen or monitor, and make instantaneous amends to the operating settings. These devices can be connected to static bar controllers, which alter the level of ionisation supplied from the static bar.



RoClean from Meech

Further development in static control technology have now allowed static bars to be designed for specific applications, such as the new Meech 650QAC bar. This highly effective ioniser has been designed specifically for the electronics/ converting industry, due to its ability to ionise down to a residual voltage of less than (+/-) 35 volts, and to do so within seconds, enabling it to keep up with the rapid speeds of a busy production line while maintaining excellent performance. An 'Air Boost' feature extends the range of ionisation up to 400mm, while TICC (Total Ion Current Control) enables the voltage to remain at a low level for up to days at a time. This means that less downtime is needed by factory staff to clean the bar. Moreover, bar mounting distance presets can be enabled via the 650QAC integrated touchpad to optimise performance.

While static control can help deter issues surrounding product quality and staff safety, these devices alone will not solve all problems associated with a statically charged web.

Web cleaners

Given the environment that converting companies operate in, web cleaners are vital, as all webs will have some degree of contamination on their surface. If these contaminants are not removed, or at least reduced to a minimum by a web cleaning system, then they will immediately find their way into the finished product. Effective web cleaning systems, working in tandem with static control, can increase productivity by reducing maintenance downtime and minimising the waste caused by sub-quality product. There are two basic web cleaning technologies for breaking the boundary layer of a web – contact and non-contact. The Meech TakClean uses an adhesive roller which incorporates twin elastomer rollers. These rollers are in contact with the full width of the web, breaking down the boundary layer and lifting contamination from the web's surface. This is then transferred to a second roller with a high adhesive mass, which removes debris from the first roller, preventing recontamination. Adhesive-roller systems can perform well on small particles but are not designed for more demanding applications where higher levels of contamination are involved, as the adhesive rolls can quickly become tainted. The Meech RoClean offers a brush cleaning solution, however this is unlike any other brush cleaner on the market. Combining dynamic air flows and a high precision rotating brush technology. The web passes through an ionisation cloud on entrance and exit, while the brush

rotates in the opposite direction to the web. Contaminants are drawn into the vacuum chamber. While the positive air flow not only disrupts contamination on the web, but it also ensures that any contamination left on the brush is also moved to vacuum chamber.


Non-contact technologies come in the form of "blow-and-vacuum" and boundary layer solutions. Blow-and-vacuum systems like Meech's CyClean employ air knives on either side of the web to strip the boundary layer and all traces of contamination from the web's surface. The presence of vacuum airflows ensure that turbulent air is captured and subsequently removed. It is an efficient method, and the systems are typically compact, making for simple integration into existing web lines.



The new Meech 650QAC bar

Conclusion

The varying applications that are constantly arriving on the market means that manufacturers must find ways to keep up with demand and also be quick to adapt. The installation of static control and web cleaning solutions can increase the productivity of the line, and ensure products are processed to a consistently high quality – the most advanced systems are also highly flexible, helping to future-proof businesses. Assessments should be performed that can help determine the levels of static and contamination that are currently being generated on the line – only then can the appropriate equipment be selected.

 www.meech.com
Image source: Meech

Complexity transformed into economic solution.

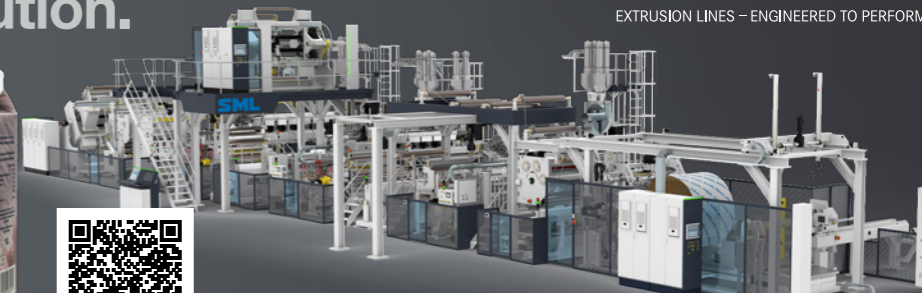
SML's Triplex coating line is designed to produce complex composite carton packaging in one simple and cost-effective process. It's application areas range from classical liquid beverage cartons to pouches.

Extrusion lines – engineered to perform



Learn more about SML's coating lines

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EXTRUSION LINES – ENGINEERED TO PERFORM



Fraser Anti-Static Techniques

Static control and sustainability

Peter Walker, Head of Strategic OEM Partners at Fraser Anti-Static Techniques, takes an in-depth look at the problems caused by static electricity, the solutions and the impact on sustainability.

Static electricity is a significant concern in industrial manufacturing worldwide, leading to operational challenges including product defects, safety risks, and downtime. Static build-up in converting applications will reduce productivity, impair quality, and can be dangerous to staff, impacting cost optimisation and reducing profitability. However, static problems also have an impact on sustainability, creating more waste and increasing the carbon footprint of production.

Product contamination and quality

Static charges attract dust, lint, and other small particles, contaminating products such as films, plastics, and electronics resulting in visual defects, compromised product quality, and even product rejection. In packaging, printing, and textile industries, static electricity can also cause materials to cling together or stick to machinery, leading to misalignment, jams, or incorrect processing. Any contamination that results in product rejection or rework impacts on waste and CO₂ emissions and in turn, a company's carbon footprint and sustainability credentials. We recently worked with a major supplier to the automotive industry specialising in exterior systems paint application, striving to provide world class yields and best in-class finish. Removing static from injection moulded plastic body panels has allowed them to reduce dust and debris ingress, reducing waste and rework time and significantly increase overall yields.

Production line interruptions

Static charge buildup on conveyor belts, rollers, and surfaces can cause materials to misfeed, overlap, or stick, disrupting the smooth flow of production and causing machine jams or slowdowns. In packaging specifically, static charge can cause materials like plastic films to cling, fold incorrectly, or seal improperly, leading to defects and subsequent waste. These jams lead to frequent stoppages, machine adjustments, and maintenance, reducing overall efficiency and increasing operational costs.

Safety hazards

Static shocks can be unpleasant and the recoil action from receiving a shock can endanger the operator. In environments handling flammable materials, such as chemicals, powders, or gases, static sparks can ignite explosive mixtures, posing severe safety risks to personnel and equipment. There is no 'one size fits all' solution in electrostatic management. The product itself is key, but it must be combined with experienced technical support to identify the best installation options, maximising performance and value for money.



Blow-off guns with integrated ionisers

These deliver ionised air streams that neutralise static and clean surfaces simultaneously. They are ergonomic and easy to use, making them suitable for manual operations, providing flexibility and control in situations where fixed systems are impractical. Widely used in assembly lines, particularly in the electronics and automotive sectors, where clean, static-free components are critical, and on final assembly where localised static issues need to be resolved.

Customised static control systems


Bespoke static control solutions can also be tailored to specific industrial needs, including ATEX approved products for integrating multiple static elimination devices to provide comprehensive protection against static-related issues. Custom systems are deployed in complex manufacturing setups, such as multilayer packaging lines, high-speed printing presses, and static cleaning lines for automotive applications. Businesses experiencing problems with static can see immediate results once anti-static solutions are installed. We have seen systems begin to achieve the theoretical maximum output of the manufacturing cell – something they have never done before. While static might seem like a mysterious force, it isn't as complex as it sounds. With high performance products and technical support, it is possible to achieve static control and improve efficiency, quality and operator safety whilst cost optimising your production lines.

Static eliminators and ionising bars

Static eliminators, such as ionising bars, use ionisation technology to neutralise static charges on materials. They generate a balanced flow of positive and negative ions that neutralise the charge on the surface, preventing static-related issues. The latest intelligent ionising bars use industry leading technology to sense the web charge and self-adjust to deliver the correct neutralising charge. Ideal for eliminating static on production lines, conveyors, and packaging machines, these products are commonly used in industries like printing, packaging, converting, and plastics.

Static control air knives

Air knives blow a controlled stream of ionised air onto the surface of materials, neutralising static charges and simultaneously removing dust and particles. This dual action ensures a clean, static-free surface. Particularly used for cleaning large surfaces like webs, sheets, and moulds in automotive, packaging, and coating industries.

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 www.fraser-antistatic.com
 Image source: Fraser Anti-Static Techniques



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BOBST

Achieving true ECG colour consistency

Pantone validation for BOBST extended colour gamut (ECG) on gravure press provides ultimate stamp of quality.



BOBST R&U technology Manager Viviana Ferrari, illustrating the high quality print results in oneECG

Colour consistency. Every brand owner demands it on their product packaging, and understandably so. People make up their minds within seconds of their initial interactions with products. And colour alone influences 85% of shoppers' purchase decisions.

Colour variations suggest a lack of product quality, which can heavily impact brand identity and customer loyalty. Many brand owners say they frequently encounter colour inconsistency or inaccuracy across different suppliers, and that colour-related challenges and rework have a negative impact on their company.

A major driver of colour consistency in the packaging industry

With that in mind, Extended Colour Gamut, or ECG, has been a major driver of colour consistency in the packaging industry in recent years, while simultaneously boosting production efficiency. ECG is a process to digitise colour matching offline, thus making it stable, easy, repeatable, consistent and independent of human interpretation. ECG refers to a set of inks; four or more, but typically seven, to achieve a colour gamut larger than the traditional CMYK ensuring colour repeatability irrespective of operator's skill.

oneECG is BOBST's ECG technology deployed across analogue and digital printing processes in label, flexible packaging, folding carton and corrugated board industries. BOBST launched oneECG several years ago and it has been a great success, enabling colour consistency across multiple machines across all industries.

But historically, there was one exception. In the early days of ECG, it had not quite been perfected for gravure machines. BOBST was passionate to address this customer pain point and worked tirelessly to enhance its gravure machines to enable perfect oneECG. In just a few short years, BOBST was confident they had achieved it. oneECG was now the most developed technology for printing with seven standardised colours in gravure.

But in the wider industry, an element of uncertainty and scepticism remained. Could true colour consistency be achieved on gravure through oneECG? BOBST decided to put it to the ultimate test – Pantone validation.

Credibility for colour consistency

Pantone is of course known for its colour matching system and for being used by millions of designers and producers in many industries worldwide.

BOBST was keen for the challenge of Pantone validation, which would prove the accuracy of oneECG on gravure beyond doubt. Pantone put BOBST through a rigorous test with diverse colour types, involving many extremes and non-standard situations.

The testing was undertaken on BOBST's gravure machine platform, the MASTER RS 6003 – a highly flexible platform, which can be configured into a multi-functional production line. Complementary converting operations can easily be added inline with printing to address a very broad spectrum of diverse product requirements and applications.

Pantone provided a list of over 2,300 Pantone Spot colours to be reproduced in ECG on the BOBST MASTER RS 6003. After receiving this list, BOBST worked on pre-press preparation and colour separation for every single spot colour. BOBST printed all of them in one step on the MASTER RS 6003 and then sent the print sample to Pantone in the US for their analysis, measurement and evaluation of the colour match and colour quality.

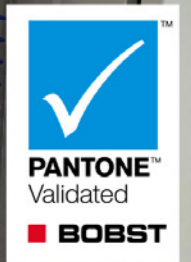
The verdict? The MASTER RS 6003 passed with flying colours. The machine has become the first rotogravure press in the world to receive Pantone validation.



BOBST oneECG gravure printed samples with supporting guidebook



Pantone finger print examination of over 2300 pantone colours



The full potential of gravure can be realised

For brand owners and converters, the results bring more than peace of mind. They completely open up the possibility of oneECG on gravure and with it, 100% job consistency and repeatability and a dramatic reduction in machine downtime. oneECG also allows multiple jobs to be run, opening up gravure printing and all other technologies for medium and short jobs. The MASTER RS 6003 enables profitable production of smaller and medium-sized orders from about 5,000 m². Orders can be delivered faster with high profitability, whether they are small, medium or long runs.

oneECG works with a fixed set of up to seven printing inks, so gravure printers only need to change the printing cylinders for job changes, while the inks remain in the printing machines. This reduces ink waste while also reducing storage space for cylinders, anilox rolls and inks. During drupa 2024, BOBST shared the news about the Pantone validation to attendees, who were impressed and pleased, feeling that it added credibility to oneECG in gravure.

For brand owners and converters that require premium quality packaging, gravure has always been an excellent option. But doubts about colour consistency – and the inability to meet increasing demands for shorter print runs – made it less desirable. Now, with the leap forward in innovation provided by the Pantone-validated MASTER RS 6003, all of this is possible, setting them on the path for a highly productive and profitable future.

www.bobst.com
Image source: BOBST



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Matthews Engineering

Refurbishment of calender rollers for sustained efficiency increases in the battery industry

The manufacturing of electrodes within the battery industry places incredibly high demands on the quality of the rollers in use. This is due to the direct influence the rollers have on the quality of electrode coating and consequently the performance and service life of battery cells. Refurbishment services addressing the reconditioning and reuse of calender rollers, gain significant importance in the context of quality assurance, cost efficiency and sustainability.

To achieve the required performance in electrode production, high requirements are placed on the calender rollers in terms of concentricity, cylindrical shape and surface quality. Precision is one of the central keywords at Matthews Engineering. "In roller production and refurbishment, we rely on future-oriented machinery and the in-depth expertise of our experienced team. Precision external cylindrical grinding and finishing are carried out with tolerances in the thousandths range," Stefan Heßeling, Senior Sales Manager Rollers at Matthews Engineering, explains.

Calender rollers made by Matthews Engineering are used in industrial battery electrode production based on wet chemical coating. In this process, a chemical slurry is applied to the respective substrate film made from aluminium or copper, and after drying, the electrode is compressed to its final density and thickness by means of calendaring. Matthews Engineering has developed an innovative technology where the calender rollers are used for the production of dry battery electrodes, or DBE for short. This technology differs from conventional methods as it allows for powder-to-film and lamination onto a current collector foil with maximum accuracy in a limited number of production steps. In both systems, the rollers need to cope with the demanding temperatures and loads in the roller gap.

Under such demands and stresses, even highest-quality rollers are still subject to continuous wear and tear as well as the risk of damage which could negatively affect machine efficiency and the quality of electrode coating. In the worst case leading to unforeseen machine downtime. Monitoring and the implementation of a systematic refurbishment programme help to minimise production shortfalls and to secure a constant high quality and efficiency in production. This ultimately has an enormous effect on the final product, more specifically the performance and service life of battery cells.



Refurbishment at Matthews Engineering



Significant advantages through consistent refurbishment

"By implementing a systematic refurbishment programme, production costs in many cases were significantly reduced, while at the same time the service life of the calender rollers could be increased. For our customers, this means enormous benefits in terms of cost efficiency, product quality and the achievement of sustainability targets," emphasises Alwin Göring, Senior Vice President Rollers & Technical Applications, Matthews Engineering. Compared to the replacement of a roller or a complete set of rollers, refurbishment offers a cost-effective alternative – and thanks to their reuse and extension of service life, this proceeding makes a decisive contribution to further reducing the ecological footprint of the battery industry. The focus is on increased production output while reducing costs at the same time. This customised refurbishment ensures a consistently high quality of electrode production. Reduced downtimes and optimised energy consumption also contribute to lower operating costs and higher process efficiency. Maintenance on a regular basis and early detection of damages minimise production risks and protect the staff.

Successful refurbishment in practice

What is the best approach when suspecting that the status of the calender rollers is having a negative effect on production results and the quality of electrode coatings? The first step is a thorough check to determine the degree of wear, to detect any damages and to set the specific requirements for reconditioning. High-precision measurement technologies are used to collect substantive data, from which appropriate conclusions can be drawn. Depending on the initial condition and the results of the inspection, a surface treatment is carried out by which abrasions and irregularities on the roller surface are removed by grinding and polishing. Precision grinding is also feasible as a so-called hot grinding. The roller is heated to its subsequent operating temperature and machined in its heated state. This ensures an optimal situation in the roller gap at operating temperature. In the case that damages of any kind have been detected and cannot be removed by precision grinding only, the calender roller can be recoated. This is then followed by precision grinding to ultimately achieve the original condition of the roller. In some cases, the realisation of alternative coatings can even result in an optimised roller as compared to the previous coating concept. If required, attachments such as bearing units are disassembled and cleaned thoroughly and assembled by specialised staff after the refurbishment process. The customer receives the calender roller "ready for installation". Calender rollers that are tempered by liquid media can be cleaned on the inside if necessary, to restore an even heating and temperature distribution. The final step is a comprehensive quality control and the preparation of detailed documentation. This ensures that the processed rollers fulfil the high standards and specifications required for electrode production. All measures are aimed at maintaining and optimising the durability and performance of the rollers, thus extending their service life.

Refurbishment for the future

Matthews Engineering offers comprehensive refurbishment services at the Precision Center in Vreden, Germany, which is currently being expanded, and at the North American location in San Antonio, Texas (USA). Each is equipped with advanced machinery for precision grinding and the necessary final finishing of the rollers. Besides precision, the focus is on innovation and continuous development. Owing to rapid progress in battery technology, the refurbishment techniques must be continuously adapted. "In the future, innovations in the field of materials science and automation could improve existing processes and further increase the importance of refurbishment in the industry," states Stefan Heßeling. "This is how the industry successfully can meet the challenges of the future." Matthews Engineering is already developing intelligent solutions for tracking and for the provision of detailed analysis containing all data in relation to the roller which is relevant for production quality assurance. This includes operational performance, temperature and vibrations. The goal is to enable predictive maintenance so operating times can be optimised even further. To learn more about the potential of calender rollers, how to improve their efficiency and reliability, and to position one's own business ideally for the future, Matthews Engineering offers targeted workshops on "Calender Rollers and Refurbishment" to customers from the battery industry. The workshops can take place either at the customer's premises or at the Vreden and San Antonio sites. They provide practical examples tailored to the customer's specific questions and the focus is on how a sustainable increase in efficiency can be achieved by the means of refurbishment.



<https://matthews-engineering.com>
Image source: Matthews Engineering

IQpak

Functional and aesthetic: the reusable packaging of tomorrow

IQpak, the innovative reusable packaging developed to market maturity by Löning + Partner and the Fraunhofer LBF in Darmstadt, Germany, with its modular design meets all the sustainability requirements of a future-oriented packaging concept. It does not break, requires no cleaning, can be returned and reused in a deposit system, and can be decorated with appealing brand designs using flexible packaging printing. How does this unique interplay of function and decoration work? An article by Dieter Finna.

The approach that IQpak takes to achieve its functionality is a novelty. A system layer made of rigid polypropylene (PP) serves as the base body of the packaging system. It ensures mechanical stability and reusability. It is provided with thin PP films on both the inside and outside, which fulfil different tasks as functional layers.

The content layer on the inside of the reusable system is in direct contact with the filling material. It protects the system layer from contamination and is thermally recycled together with the handling layer. Its barrier properties are matched to those of the contents. The outer handling layer provides the packaging with its decorative effect at the point of sale and offers brand owners space for brand presence, brand recognition and product information. The reusable packaging is closed by a peelable lid or a slip lid, both also made of polypropylene.

What makes IQpak a decorative packaging solution?

Shrink sleeves are one of the fastest growing technologies in packaging decoration. With the help of shrink sleeves, packaging decorations can be applied to a wide variety of IQpak shapes. The sleeves are placed on the system layer and shrunk by heat so that they adapt exactly to the respective shape of the system layer, whether conical, cylindrical or bowl-shaped. This means that packaging can be fully decorated regardless of its shape, which makes it highly attractive to end users. Another decoration option is to apply the handling layer in a duplex thermoforming process. In this process, the



Decorative variant in the dairy segment

handling layer is applied to the system layer from a continuous film using a positive thermoforming process. The packaging produced in this way, with all layers in place, can then be printed using conventional cup printing processes.

Adapting the sleeve designs to the shrinking process

In the pre-press stage, the graphics and text must first be adapted to the expected deformation of the film during the shrinking process. So-called mock-ups make it possible to determine the exact distortion levels of the shrinking process. These values are incorporated into the packaging design and compensate for the shrinkage.

Printing processes such as flexo and gravure printing or digital printing are suitable for printing high volumes. The transparent shrink sleeve material is printed in reverse on the inside of the sleeve. This protects the printed design from external influences such as abrasion or scratches. On the outside, the glossy film of the sleeve gives the packaging a highly attractive effect.

Applying the sleeve

The printing process is followed by the processing of the printed shrink film into a sleeve. For large print runs, the shrink sleeves are delivered in roll form. For small print runs, they can also be delivered in individual sections. The sleeve, cut to the length of the section, is placed on the system layer in packaging machines and then passes into a shrink tunnel. There, the sleeve adapts exactly to the shape of the system layer.

Shrink sleeves as a sustainable packaging solution

Applying shrink sleeves to the system layer generates almost no material waste. Compared to labelling with self-adhesive labels, neither adhesive nor the silicone-based backing material usually used is required, nor is there any matrix that arises when removing the labels. Shrink sleeves thus produce hardly any waste. When the reusable packaging returns to the refurbishing station, it can be provided with a perforation to make it even easier to remove the shrink sleeves from the handling layer. All material compositions of the IQpak variants are stored in a database, ensuring a supply of mono-material when refurbishing the packaging.

Moving away from the throwaway society

Environmental problems caused by single-use packaging can only be solved by a fundamental change. Both retailers and consumers are called upon to show innovative strength. Current data from the Gesellschaft für Konsumforschung (GfK) from May 2024 show that consumers are consuming more sustainably again. The sustainability index rose by 7.4 points to 101.6 points between January and April 2024, after it was less in the consciousness of consumers in 2023 due to an increased cost of living. This development in turn supports brands in positioning themselves as sustainable

and environmentally conscious. IQpak provides them with a new, future-oriented packaging solution that appeals to both environmentally conscious and progressively minded consumers.

Looking for an anchor investor

Now that the system has reached the required technical maturity, the next development step is on the horizon: the transition to series production. "For this step, we are looking for a committed anchor investor to work with us to advance the development of the reusable system," explains Johann Löning, who describes this as the next phase in the implementation of the concept. "We see great potential for IQpak, particularly in the area of dairy products, but also in the area of non-food products," explains Christian Beinert, head of the Plastics Processing and Component Design department at Fraunhofer LBF. Both are certain: IQpak will revolutionise the concept of reusable packaging in many areas and establish itself on the market as a sustainable solution.



<https://www.iqpak.com>

Image source: Ahnen & Enkel

converting equipment

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FACHPACK 2024

Guiding the transformation of the packaging industry

“That was the FACHPACK as we have known and appreciated it for a long time,” was the unanimous response of exhibitors and visitors at FACHPACK 2024, which closed its doors after three extremely successful days (24-26 September).



37,000 trade visitors, a third of them from abroad, came to the exhibition stands of the 1,455 exhibitors to find out about the latest trends and innovations and discuss pressing packaging issues with experts. The main theme ‘Transition in Packaging’ was evident in all halls and the supporting programme.

“The huge popularity of the event speaks for itself: Despite a changing packaging industry and many challenges, the European packaging sector showed itself to be extremely innovative, solution-oriented and confident at FACHPACK,” says Heike Slotta, Executive Director Exhibitions at NürnbergMesse. In 2025, FACHPACK will be held together with POWTECH TECHNOPHARM at the Exhibition Centre Nuremberg.

“FACHPACK has once again proven to be a clear trendsetter and driving force for the European packaging industry. And that’s what we need! Because the packaging industry is undergoing a transformation. New regulations have to be implemented, and high expectations in terms of sustainability and the circular economy have to be met. At the same time, demographic change is presenting the industry with challenges. And then there are the issues around energy supply, supply chains, digitalisation and artificial intelligence. We have now experienced live in Nuremberg over three days just how innovatively, solution-oriented and optimistically the industry is meeting these challenges and helping to shape the change. The FACHPACK motto ‘We are making the future’ once again sums it up,” underlines Slotta, praising the mood at FACHPACK 2024.



Visitors came from all over Europe

FACHPACK offered a comprehensive range of solutions and innovations in the fields of packaging, packaging technology and packaging processes. Most of the visitors to FACHPACK travelled to the exhibition centre from European countries. After Germany, the top 10 countries were Austria, Switzerland, Italy, the Czech Republic, Poland, the Netherlands, France, Spain, Turkey and Hungary. The international share was 33 percent.

96 percent of the trade visitors were satisfied with the range of products in the exhibition halls, as shown by the results of a visitor survey conducted by an independent institute. Around 90 percent of the trade visitors stated that they were involved in purchasing and procurement decisions at their companies. Two-thirds of them are in managerial positions. Visitors came primarily from the food and feed, pharmaceutical and medical, chemical, cosmetics, retail, automotive, electrical and electronics, non-food, logistics and packaging industries.



Women4Packaging network successfully launched

The Women4Packaging networking event was very well received: 150 female industry players took advantage of this unique opportunity to network and exchange ideas on current topics and trends in the packaging industry on the first day of the fair. The keynote speech by Vera Strauch, founder of the Female Leadership Academy and expert on feminist leadership, provided strong impetus. The initial meeting received a lot of praise – the Women4Packaging network will be continued and expanded accordingly, with the aim of putting women in the packaging industry in the spotlight in the future. Regular meetings are planned. Phuong Anh Do, Deputy Director FACHPACK, is overwhelmed by the positive response to the new industry platform: “There are numerous qualified women in the packaging industry. That’s why we are particularly pleased that we were able to launch Women4Packaging at FACHPACK, a pioneering network for women that offers industry participants a constructive exchange and real added value on an equal footing.”

The next FACHPACK will be held together with POWTECH TECHNOPHARM at the Nuremberg Exhibition Centre from 23 to 25 September 2025.



www.fachpack.de

Image sources: Nadine Bauernfeind, Martin Hirschmann

A fresh start for the packaging sector

Written by Martin Hirschmann, Editor-in-Chief.



After three days full of activities and events, FACHPACK closed its doors on 26 September. With a high visitor turnout and highly satisfying exhibitor numbers, the specialised trade fair for the packaging industry has proven itself in an increasingly difficult landscape for trade fairs.

Networking is key

The packaging sector has been through a lot in recent years. From the pandemic to supply chain issues, political crises, and a gargantuan mountain of new rules and regulations, this industry had to become weather-proof very quickly. With all these challenges in mind, the need for know-how exchange and networking has never been greater. Accordingly, FACHPACK has probably never had more stages and networking spaces than in the 2024 edition: From the established and well-respected PACKBOX to the INNOVATIONBOX for exhibiting companies up to SOLPACK 5.0, where alternative packaging solutions played the main role. And, even though I wasn’t “allowed” to attend this event myself, I was told that the “Women4Packaging” networking event turned out to be a great success. It’s obvious that this male-dominated industry requires more female leadership and perspectives – and FACHPACK’s clear commitment in this regard should be food for thought for all players in the industry when it comes to the next round of promotions.

A sound marketing strategy

One more reason for the success of this year’s FACHPACK can be found in the tireless work of Heike Slotta, Phuong Anh Do and their team. Their fresh marketing concept, their extensive presence on LinkedIn, and their friendly and approachable attitude have truly made an impression on many people I spoke with.

An opportunity for the converting sector

I am convinced that FACHPACK is a highly relevant event for our industry. It not only includes numerous producing companies – film and foil manufacturers as well as (specialty) paper manufacturers – but also suppliers such as roller manufacturers or providers of automation solutions, etc. Furthermore, we met quite a few key players from our industry who were “just visiting” the show. Even with the current battery boom, packaging will always play a main role in the converting sector – and giving FACHPACK a chance may turn out to be the right decision, as some first-time exhibitors alluded to me in conversations.

Positive outlook for 2025

Next year, FACHPACK will return alongside POWTECH TECHNOPHARM (both from 23-25 September 2025 in Nuremberg), which promises even more trade visitors thanks to the obvious synergies between the two co-located fairs. As someone mentioned in a conversation with me yesterday, “This event has the character of a small trade show, but with a large audience.” While it may sound paradoxical, I agree with their statement.

49th Munich Adhesive and Finishing Symposium (MKVS)

Creative developments in raw material and product design

The 49th Munich Adhesive and Finishing Symposium 2024 will take place in a few days from 28-30 October 2024. PRO Flexconvert has compiled the latest information for participants of the traditional event at the Leonardo Royal Hotel Munich.

This year, the Munich Adhesive and Finishing Symposium will focus on pressure-sensitive adhesives, covering the entire range from raw materials and applications to process engineering for and in all involved adhesive systems and application techniques (pressure-sensitive adhesives, hot-melt pressure-sensitive adhesives and extrudable films), as well as the corresponding technical, mechanical equipment.

- OVERVIEW OF PRESSURE-SENSITIVE ADHESIVES MARKET;** Alexander Watson Associates
- DOUBLE-SIDED SIMULTANEOUS COATING STATION FOR SILICONE APPLICATION;** KROENERT
- STRUCTURED RELEASE LINERS FOR DEMANDING PSA-APPLICATIONS;** Mondi Group
- SUSTAINABLE GLUING IN PACKAGING PRODUCTION – INDUSTRY TRENDS;** Baumer hhs
- INTELLIGENT INSPECTION SOLUTIONS FOR ADHESIVE FILMS;** Dr. Schenk Industriemesstechnik
- GRANULATION CAPABILITY OF ADHESIVES THROUGH ACTIVE COOLING WITH THE PLANETARY EXTRUDER;** ENTEX Rust & Mitschke
- SBR-DISPERSION-BASED PSA TECHNOLOGY FOR VERSATILE FORMULATOR'S TOOLKIT;** Synthomer Germany
- SYLVASOLV – NEW AND 100% BIO-BASED PLASTICIZER FOR ADHESIVES AND ITS POTENTIAL APPLICATIONS;** Kraton Chemical
- SOLVENT-FREE PSA TECHNOLOGY AS A LEVER TO REDUCE CO₂ FOOTPRINT;** Sika Technology
- REVOLUTIONIZING SUSTAINABILITY AND EFFICIENCY: HENKEL'S NEW UV LED HOTMELT PSA;** Henkel Adhesive Technologies
- NOVEL ACRYLIC PSA THAT ALLOW EASY CELLULOSE-BASED MATERIAL RECYCLING;** Organic Kimya
- SUSTAINABLE HOT MELT PSAs: EXPLORING BIO-BASED, COMPOSTABLE AND RECYCLABLE SOLUTIONS;** artimelt

Table-top exhibition

The 2.5-day independent technical conference and networking event will once again be rounded off this year with a small table-top exhibition in the foyer of the conference room, with companies such as Frans Vermeë – Individualised Packaging Technology, Dr. Schenk Industriemesstechnik, Kraton Chemical, Nynas, Rocholl – Prüfkörper für Klebstoffe and Weber & Schaefer.



www.mkvs.de

Image source: Hinterwaldner Consulting



Impressions from 2023

Bonding – Coating – Finishing

The topics of the programme, divided into five sessions, cover all areas of bonding, coating and finishing. In addition to groundbreaking results from research projects and start-up companies, these include creative developments in raw material and product design, as well as sustainability, reduction of the CO₂ footprint, recyclability and degradability and the associated new holistic approaches in process engineering in the sense of a circular economy, innovative formulations and possible applications – mainly in paper, plastic and film applications, self-adhesive materials, packaging and labelling applications, tapes & labels, coating & lamination, as well as nonwoven applications. Some of the hot topics from the wide range of lectures by national and international companies, institutes and universities are listed here:

Preview PRO Flexconvert 5-2024

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- » Knives & Winding
- » Automation, Handling & Software
- » Surface Treatment
- » ICE preview, part 1



In every issue, you will also find reports, company portraits and current topics from the industry.

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INNO TAPE GmbH

Customised adhesive tapes for the automotive industry

Our current ConvertingPRO is INNO TAPE GmbH in Alfeld, Germany. In this interview, CEO and 'tape enthusiast' Thomas Weiser provides exclusive insights into his company.

INNO TAPE is a relatively young company – it was founded in 2006. However, the story begins a few years earlier, because Thomas Weiser had been carrying the idea of founding his own company around with him since 2000. His vision: to be a specialist in the converting of adhesive tape! "I wanted to start a manufacturing company. Not a dealer, not an engineering firm, not a kiosk, but I wanted to develop a supplier and for that I simply needed money," Weiser recalls. "We needed machines, we needed material. We simply needed everything you can think of for a manufacturing company. I am not someone who hoards Swiss bank accounts. I had a young family at home, and I didn't have money piled up in the basement either." In the end, it was his friend Matthias Ronge who was convinced by Weiser's idea and came on board as an investor. On 3 July 2006, INNO TAPE GmbH was finally established.

Independent adhesive tape converter

"It was our aim to be active in the market as an independent adhesive tape converter, dealing exclusively with the requirements of converting," Weiser explains to PRO Flexconvert. "It should not be the case, as it still is to some extent today, that trading houses or manufacturers also do processing themselves 'on the side'."

Since its foundation, INNO TAPE has consistently pursued and developed this specialisation in converting. Over time, the company has developed a strong focus on the automotive sector. "Automotive was certainly our largest market very early on – and today it is our main market," emphasises Weiser. Since 2021, INNO TAPE has therefore been confidently and officially communicating that it is, indeed, an automotive supplier. Well over 90% of sales are to the automotive industry.

"This certainly also distinguishes us from many other colleagues who are involved in the converting of adhesive tapes," says Weiser. The remaining 10% are accounted for by the electrical sector and 'general industry.'

High demands

Today more than 170 employees work for INNO TAPE in Alfeld – it is the only location of the company. "We focus on our domestic market, which for us is Europe. We have no branches or external production lines," emphasises Weiser. Last year INNO TAPE made just over 25 million euros in sales, 70% of which came from Europe. Within Europe, the German-speaking market accounts for 60% of this.

"When you work for the automotive industry, the requirements are very high," he confirms. "We were certainly not the first to arrive on the scene! We repeatedly tried to emphasise the added value of our expertise and capabilities to the customer and actively approached the most important people."

Over time, INNO TAPE has been able to establish itself in this challenging environment and convinced more and more customers of its merits. Although the adhesive tape manufacturer from Lower Saxony also supplies OEMs, according to Weiser they do not make up the majority of its customers. The lion's share of sales comes from cooperation with the supplier industry. However, sales with OEMs are trending upwards.



Thomas Weiser

Customer-specific adaptation

"We are not a tape manufacturer, but we buy adhesive tape systems and adapt them in form and function to our customers' applications," says Thomas Weiser, succinctly describing his business model. INNO TAPE products can be found in a wide variety of places in vehicles – from emblems, mouldings and trims to displays and electronics. The market for INNO TAPE continues to grow – regardless of the future role of e-mobility. Adhesive tape is equally indispensable in vehicles with different drive technologies.



Partner with well-known brand manufacturers in the adhesive tape segment

INNO TAPE works with the world's most well-known brand manufacturers in the adhesive tape segment. These include, among others, 3M, tesa, AFTC, Nitto, Coroplast and Orafol. "These companies are very happy to use us as a multiplier," explains Weiser. "We are listed as a preferred converter by these companies because we are highly specialised and use their systems."

When asked about social megatrends such as the shortage of skilled workers, sustainability and our ageing society, Weiser emphasises: "These are all topics that concern us, both in our daily work with our customers and in the company itself. The issue of skilled workers is not new!" As an entrepreneur in a rural area, Weiser was very early to develop new strategies for recruiting new employees.

CO2-neutral production from 2030

From 2030, INNO TAPE wants to produce in a CO2-neutral way. "We take this topic very seriously and focus on all the things that are within our sphere of influence," underlines Weiser. These include the buildings, the employees, the product and also the production itself.

Weiser attaches great importance to the topic of automation: "We have been in close contact with our customers for quite some time because they process our products in a highly automated way," says the CEO. "Based on this knowledge, we then realised that automation also makes sense for us." The employees should not be gradually replaced but given more time for higher-value tasks. Robots have also been in use for some time.

Modern machine bank

INNO TAPE presents itself today as a modern company that is well prepared for the challenges of our time. This also includes modern machinery: according to Weiser, INNO TAPE has a total of five production halls, three of which are used for production. "Our vision is to create a future in which all self-adhesive solutions are optimally implemented," he emphasises at the end of the interview.

www.innotape.de
Image source: INNO TAPE GmbH



“Giving something back to the community”

Baumer hhs GmbH has been supporting the ‘Villa Sonnenschein’ parents’ house in Krefeld for five years. Families of children with cancer find a temporary retreat here.

“Offering training in exchange for a donation is such a great and appealing idea that I finally wanted to meet the people behind it,” says Jens Schmitz, chairman of the Krefeld Association for the Support of Children with Cancer, during a visit to the headquarters of Baumer hhs GmbH in Krefeld-Uerdingen, Germany. The company is a leading global manufacturer of innovative adhesive application systems.



A visit to Baumer hhs: Head of Marketing Andreas Brandt (left) and Managing Director Percy Dengler (right) welcomed Jens Schmitz, chairman of the Krefeld Children's Cancer Support Association.

For five years now, Baumer hhs and the ‘Villa Sonnenschein’ parents’ house, which the association runs at Lutherplatz, have enjoyed a close partnership. It offers a temporary retreat to families whose children are being treated for cancer at the Helios Clinic in Krefeld – with seven modern parent rooms, two kitchens and lovingly furnished living spaces. Since money is always needed to keep the facility up to date or to provide children with new play opportunities, the association is grateful for the support of the Krefeld-based global player.


The idea: training in exchange for donations

Percy Dengler, Managing Director of Baumer hhs, emphasises why social commitment is an important pillar of the company: “We see it as our social obligation to give something back to the city where we find great conditions for innovation and growth.” After brainstorming among the staff, the choice fell on Villa Sonnenschein, which one employee had got to know through an acquaintance. “It is important for us to know where our money is going. When we met the people who run the parents’ house and saw the bright eyes of the children playing in the garden, we knew we were in the right place,” says Dengler. Since then, donations have been made to Villa Sonnenschein throughout the year. For example, disused office furniture or tools are given to employees in return for a voluntary donation. The prize money for the ‘Family-Friendly Company’ award was also donated to the parents’ house. Two years ago, the management came up with the idea of conducting training courses in return for donations.

Service technicians from Baumer hhs’s international subsidiaries regularly visit the training centre in Krefeld. “We waive the participation fee, but we do expect a donation for Villa Sonnenschein,” says Marketing Manager Andreas Brandt.

Interesting insights from both sides

During his visit, Jens Schmitz, Chairman of the association, was impressed by the innovative strength and sustainability of the company during a tour of the training and technology centre and the company. In return, the Managing Director and Head of Marketing learned more details about the work of the association in support of children with cancer. Jens Schmitz explained that cancer research is also supported by donations. For example, a doctoral student at the Helios Clinic is currently investigating the physical and psychological effects of sport on children with cancer after intensive therapy. She has already produced good results. Jens Schmitz, who lost his own son to cancer many years ago, emphasises that new forms of therapy in recent years have had a very positive effect on the chances of recovery from cancer. “All the more reason to continue supporting the work of the association,” conclude the managers at Baumer hhs.

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 www.baumerhhs.com
 Image source: Krefeld Children's Cancer Support Association (Petra Verhasselt)

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