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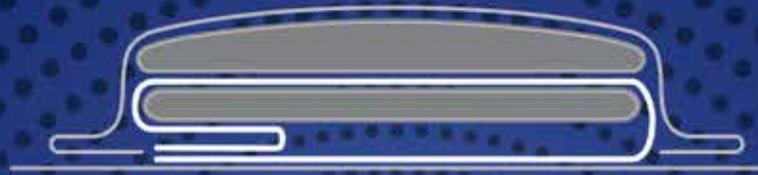
The magazine for the hygiene industry

**PANDEMIC BRINGS
BACK THE DISPOSABLE
vs RE-USABLE DEBATE**

How to convert a
**Graphic Paper machine
into a Tissue machine**

**TISSUE PRODUCERS
IN THE MIDDLE EAST
AND NORTH AFRICA**

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ALGERIA

Faderco records + 40% OEE thanks to Körber's integrated solutions for converting and packaging

Increasing profitability and production of tissue products, including sustainable ones, in a rapidly growing market: this is the challenge, accepted by Körber Business Area Tissue, presented by Faderco, a leading company in hygiene products in Algeria.

Amor Habes, Faderco's General Manager, comments: "The market for tissue products in our country is evolving rapidly. Our company needed not only to increase efficiency and productivity — also following the purchase of a new paper mill — but also to have a product that stood out on the shelf for its quality and eco-sustainability. As a strategic response, also strengthened by an almost ten-year-long collaboration with

Körber, we decided to invest in Perini Constellation™ S6 technology, complete with wrapping, bundling, and engraving solutions equipped with the Aquabond system".

Sandro Magnani, Sales Manager for the Business Area Tissue, comments: "Körber offers fully integrated solutions for converting, packaging, engraving, and after-market. With this investment, Faderco can access the best technology and optimize its production efficiency. Our technology has a strong focus on the final product, a competitive advantage for a company that focuses on high quality and differentiation in order to be competitive."

The benefits of the Perini Constellation™ S6 lines include improved product quality, simplified line operations, and increased efficiency. Performance and quality are stable, the machine speed is three times higher — up to 45 logs / min and a speed of 600 m / min — and volume is increased to up to 40% with the same paper. Thanks to Perini Constellation™ S6, Faderco has managed to increase productivity of the Faderco system by over + 40%.

The Constellation technology is a real breakthrough innovation that has led to the sale of over 100 lines worldwide in the last five years. Constellation offers smooth rewinding at all speeds and perfect rolls from first to last sheet — close to 100% of global customers are satisfied with product quality, and over 85% reported improved operational efficiency of at least 10% .

Faderco's need was not only to achieve high levels of performance quality, but also to differentiate itself on the shelf with eco-sustainable products. For this reason, the line has been equipped with Aquabond, the sustainable and efficient

water-laminating solution.

The chemical adhesives that are normally used, in fact, are based on vinyl and nonrenewable raw materials. By eliminating them from the production cycle through Aquabond it is possible to pursue the philosophy of eco-sustainability, one of the key points of Faderco's development. Aquabond not only guarantees an environmentally sustainable, soft, and smooth final product but also impacts the manufacturer's costs, eliminating those for the glue in embossing, and the line's efficiency.

This type of embossing eliminates the problem of adhesion and winding of the paper on steel rollers. The anilox and the cliché rolls, the doctor blade unit, and the embosser remain clean, and the continuous stops to the entire line to carry out cleaning and lubrication of the rollers are avoided. All this has led to a productivity advantage quantifiable in 5 percentage points of machine efficiency.

Finally, the Perini Constellation™ S6 Line is equipped with the Easy HMI panel, the operator friendly control panel that allows the operator to manage the production parameters. Constellation S6 can process any type of product. Constellation makes the life of operators so much easier than ever before. It's enough to set just a few parameters and all the rest will be taken care of by this Smart Machine.



Faderco has more than 36% Market Share with average growth of 14% in the last 5 years. The company has more than 1,800 employees, 12 brands in 7 strategic business areas, and 2 branches.

SAUDI ARABIA

MEPCO enters tissue business

MEPCO and Toscotec signed a turnkey supply contract for a high efficiency AHEAD 2.2L tissue machine. Toscotec is one of the world's leading manufacturers, specialized in turnkey projects, complete lines, rebuilds and single equipment for the tissue and paper & board industries.

MEPCO's tissue machine will have a production capacity of over 60,000 tons per annum of tissue jumbo rolls, covering a wide range of basis weights. Toscotec will supply the new line on a turnkey basis, including two OPTIMA 2600L slitter rewinders designed to ensure superior bulk and softness preservation. The manufacture of the machinery will take place in Lucca, Italy starting from the first quarter of 2021, and is expected to complete within 12 months. The test-run of the new line is scheduled in the first quarter of 2023, followed by commercial production.

MEPCO announced entering the tissue jumbo roll manufacturing in December 2020. A lucrative opportunity to fill a significant import gap in the local market, which enjoys population growth and high GDP per capita, but limited local supply. Sami Safran, CEO of MEPCO, commented: "This is the first milestone in our new tissue project. We are progressing according to the planned timeline. Signing the machinery supply contract with Toscotec puts us at comfort about the product quality and efficiency, which are essential to position our products perfectly in the market. We think big, and have an ambitious vision to realize. MEPCO enjoys an international reputation for being among the lowest cost producers of containerboard. With the expertise of its management team, it has a concise plan to extend its cost efficiency techniques to the tissue manufacturing business. With Toscotec as our partner of choice, I am looking forward to realizing the maximum potential of this milestone project". Alessandro Mennucci, CEO of Toscotec, said: "We are delighted to receive a new order for a state-of-the-art turnkey operation from such an important group as MEPCO. It is also a milestone for Toscotec, who is entering the Middle East market with an advanced high-speed tissue line designed to manufacture premium quality tissue, with a high level of energy efficiency ensured by the integration with the cogeneration system".

MEPCO is the leading vertically integrated paper manufacturer in the Middle East, offering a diverse range of containerboard and specialty paper products serving the packaging, construction, furniture, and paper core industries around the world. MEPCO supplies its products to the local Saudi market, as well as the GCC, Middle East and Africa. The Company's innovative approach to doing business enables it to deliver significant environmental and economic benefits to Saudi Arabia. MEPCO is listed on the Saudi Stock Exchange (Tadawul) under symbol '1202'.

TURKEY

Aktül Kagit Üretim Pazarlama orders third Valmet tissue line

Valmet will supply the third tissue production line including stock preparation, automation system and a Focus rewinder to Aktül Kagit Üretim Pazarlama A.S., Turkey. The new Advantage DCT 200 tissue line will be installed at the company's mill in Pamukova, Sakarya Province in Turkey. The start-up is planned for the second quarter 2022. Valmet has previously supplied two Advantage DCT 200TS tissue lines, started up in 2011 and 2016, to the same mill. "Since the start of our first tissue machine, we have been working hard to continuously improve our production and operations with cutting-edge technology. Valmet's Advantage DCT 200 technology including the flexible Advantage ViscoNip pressing technology have strongly contributed to our success. It is a natural step for us to continue our journey together with Valmet and their team also in this third project," says Sener Astan, General Manager, Aktül Kagit Üretim Pazarlama A.S.

"We are happy to continue our long and fruitful collaboration with Aktül Kagit and support them on their successful path forward. It is always a pleasure to work with companies who are aiming for the best technology, smart mill design and great teamwork," says Björn Magnus, Sales Director, Tissue Mills business unit, Valmet. Valmet's scope of delivery will comprise of a complete tissue production line including a stock preparation system and an Advantage DCT 200TS tissue machine. With a width of 5.6 m and a design speed of 2.200 m/min, the new line will add 70.000 tons a year of high-quality facial, handkerchief, toilet and towel grades to Aktül Kagit's current production. The raw material for the new line will be virgin fiber. The production line will be optimized to save energy and enhance final product quality.



Valmet will install a third Advantage DCT tissue line at Aktül Kagit's mill in Pamukova, Turkey.

Aktül Kağıt started its tissue production in 2011 and carries out its tissue paper manufacturing and converting operations in Pamukova-Sakarya, in a total area of 200.000 m² with a capacity of 140.000 ton/year in paper production and 120.000 ton/year in converting. Aktül Kağıt produces private label products for leading local chains, markets and abroad. The company is also the preferred supplier of quality jumbo rolls for many converting facilities; local and abroad.

TURKEY

Europap Tezol Kağıt boosts capacity

Europap Tezol Kağıt will boost capacity with a Toscotec-supplied AHEAD 2.2S tissue machine at its integrated production base in Mersin, Turkey. This is a repeat order for Toscotec who already supplied a TT SYD steel Yankee dryer installed on their PM1 in 2012. The new line is scheduled for start-up in mid-2022.

The AHEAD 2.2S machine has a sheet trim width of 2,920 mm, a maximum operating speed of 2,100 mpm, and an annual production capacity of over 40,000 tons. It is equipped with TT NextPress with upgraded design, third-generation TT SYD, TT Reel-BulkyReel for optimal preservation of bulk and softness, and high efficiency TT Hood with automatic balancing system.

Ersin Tezol, CEO of Europap Tezol Kağıt, says, “Our production capacity expansion required the most advanced technology at a cost-attractive price. Toscotec’s technology was the best choice to meet the strict environmental requirements of our company and the high quality standards of our super-prime brands, especially for softness and hand feel.” Matteo Giorgio Marrano, Toscotec’s sales manager, says, “This AHEAD 2.2S machine will allow Europap Tezol to achieve its target of production increase and prime quality. The configuration with TT NextPress and TT SYD of new generation and high recovery TT Hood aims to provide the highest possible level of energy efficiency on a tissue production line. Toscotec also strengthens its presence in the Turkish market, which is growing into a key market in the EMEA region.”

Valmet to supply fourth Advantage tissue line to Lila Group

Valmet will supply a complete Valmet Advantage DCT 200 tissue line to the Turkish tissue manufacturer Lila Group in Corlu, 100 km west of Istanbul. The TM4 line will be equipped with all state-of-the-art options available including stock-preparation, Rewinder and an extensive automation package to achieve production with high efficiency and low energy consumption. Start-up is planned for 2021.

The new machine, TM4 have a width of 5,6 meter and a design speed of 2,200 meter/minute and will add a capacity of 70,000 tons of tissue products for the domestic and export market.

Valmet has previously delivered three Advantage DCT 200 tissue lines to the same mill. TM1 started up in 2007, TM2 in 2012 and TM3 in 2020.

“During the years we have seen the Turkish tissue market grow rapidly and we are proud to be part of that journey. Lila Kagit have from the very start been investing in state-of-the art technology and have for the fourth time decided to install the reliable Advantage DCT technology,” says Björn Magnus, Sales Director, EMEA, Valmet.





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TURKEY

ANDRITZ to supply a Wetlace™ CP line to Lotus Teknik

International technology Group ANDRITZ has received an order from Lotus Teknik A.Ş., Turkey, to supply a neXline wetlace CP (carded pulp) line for the production of biodegradable, plastic-free wet wipes.

The line is scheduled for start-up by the end of 2021.

The neXline wetlace CP line is equipped with state-of-the-art stock preparation equipment, including approach flow and fan pump, opening and blending, TT card, wetlaid forming unit for pulp application, a hydroentanglement system, filtration unit, dewatering, and through-air drying. All components are perfectly designed to produce a first-class biodegradable wipe.

The so-called Wetlace CP process combines the benefits of two forming technologies (inline drylaid and wetlaid web forming process) with bonding by hydroentanglement. Natural fibers can be processed smoothly and generate a high-performance and cost-efficient wipe that is fully biodegradable and plastic-free.

ANDRITZ developed the new neXline wetlace CP line in order to serve the new market trend of sustainable wipes. Lotus Teknik supported the development from a roll goods producer and converter perspective.

The partnership follows the successful installation of an ANDRITZ high-capacity spunlace line some years ago. The Wetlace CP new generation of production technology for biodegradable wipes has resulted from ANDRITZ's extensive knowledge and considerable history of providing technologies for wood-based industries, spunlace and wetlaid roll goods, and the strong collaboration with Lotus Teknik.

Mr. Ceyhun Zincirkiran, co-owner and managing director of Lotus Teknik, says "This new line will help us to serve our customers with state-of-the-art biodegradable and sustainable products. These wipes will set new benchmarks in the market and secure our position as one of the industry leaders in wipes production."

Lotus Teknik A.Ş. is a leading nonwoven roll good producer and a member of the Sapro group. Sapro is based in Istanbul, Turkey, and is one of the top three producers of wet wipes globally.

The company produces, converts, and supplies some 120 million wipes a day for personal, household, and industrial use, exporting 70% of its production to countries all across Europe and to the Middle East, the USA, Canada and Australia.

Lotus Teknik operates ANDRITZ lines (spunlace, and as from end of 2021 also Wetlace CP) producing roll goods for a wide variety of nonwoven end products.



ANDRITZ neXline wetlace CP for the production of biodegradable wet wipes.

FRANCE

ANDRITZ to acquire Laroche, France

International technology Group ANDRITZ has signed an agreement with Laroche, based in Cours, France, to acquire LM Industries comprising Laroche SA and Miltec SA, France. ANDRITZ will take over all Laroche entities and their business worldwide. Closing of the transaction, which is subject to approval by the ANDRITZ Supervisory Board, is expected at the beginning of 2021.

Laroche is a leading supplier of fiber processing technologies such as opening, blending and dosing, airlay web forming, textile waste recycling and decortication of bast fibers. The product portfolio further complements the ANDRITZ Nonwoven product range. ANDRITZ is now able to offer the complete supply and value chain, from the raw material, to opening and blending, web forming, bonding, finishing, drying, and converting. Laroche's high-performance technologies for opening and blending enhance the ANDRITZ scope of supply for spunlace, needlepunch and wetlaid production lines. Moreover, both companies have agreed to further strengthen the development of their existing technologies for high-speed and high-capacity applications and also to continue pursuing the development of textile recycling processes in order to stay ahead of the changes the industry is facing.

Laroche SA has been developing fiber processing technologies for more than 100 years. With integrated manufacturing, the company supplies lines for a wide range of industries/products: spinning, bedding and furniture, automotive, acoustic and thermal insulation, geotextiles, filtration, wipes, and many more.

Robert Laroche, President of Laroche: "This acquisition is the logical conclusion in view of the successful long-term relationship between ANDRITZ and Laroche. We have been working in close cooperation for more than ten years and are very much looking forward to becoming a member of the ANDRITZ family."

Andreas Lukas, Senior Vice President and Division Manager, ANDRITZ Nonwoven: "By adding Laroche's state-of-the-art products and expertise to our existing capabilities, ANDRITZ Nonwoven will further strengthen its market and technology position."

BELGIUM

Ontex develops new smart diaper solution for incontinence

The smart diaper automatically alerts caregivers via an app when the pad needs to be changed, freeing up time and budget for other essential care tasks. Ontex a leading international personal hygiene group, has developed a smart solution to improve incontinence care for patients, accelerating innovation in adult care, a category that has seen good and steady growth in recent years. Ontex's innovative solution comprises a top-quality diaper with a printed sensor, a transmitter clipped onto the diaper as well as an application for mobile devices. This combination accurately determines the saturation level of the diaper as well as the risk of leakage and alerts care-givers when it is necessary to change the diaper. This enables tailored, individual continence support for patients which contributes to the well-being of users, families and caregivers alike. The smart diaper also reduces the environmental impact of care institutions by decreasing unnecessary diaper usage and savings on laundry.

Xavier Lambrecht, President, Ontex Healthcare Division: "With this smart diaper, Ontex's objective is to develop and promote better continence management and improve the quality of life of those suffering from this condition. It will also be a huge help to caregivers. The new smart diaper is a result of our long-standing innovation program at our R&D center for adult care. It will reduce the time hospital and care-home staff spend on continence care, freeing up time and budget for other essential care tasks."

Ontex's new smart diaper has successfully passed the first stage of its validation after six weeks of testing in normal conditions of use at a senior care facility in Belgium. Results show the potential to reduce cases of urine leaks on clothes and linen by up to 50%, therefore alleviating one of the most burdensome and costly tasks in institutions. The validation process will continue during the first half of 2021, with a gradual commercial launch in the second quarter of this year. Incontinence is a very common condition. Almost one in ten persons in Belgium already suffers or will at some time suffer from some form of incontinence¹ (defined as involuntary emission of faeces or urine, and loss of bladder or sphincter control). Even if incontinence is most common among the elderly, it affects all ages of the population.

Incontinence is perceived as an embarrassing condition and finding the right support and personal hygiene product can be a challenge for people suffering from it. Moreover, as we have seen during the current COVID-19 pandemic, hospitals and elderly care facilities face tremendous time and budget pressure to take care of patients. Incontinence is one of the most prevalent conditions in age care facilities and one of the most important components of the cost for caring in institutions.

¹ <https://www.belgique-incontinence.be/incontinence-explication-definition-solution.htm>

SLOVENIA

Toscotec-supplied turnkey tissue line achieves top speed at Paloma

The AHEAD 2.2L tissue machine supplied by Toscotec to the Slovenian tissue producer Paloma has achieved its top speed and performance at Sladki Vrh mill. Paloma d.d., part of the Slovak Hygienic Paper (SHP) Group, purchased its new line from Toscotec on a turnkey basis and has confirmed that the machine has fulfilled all the conditions for take over acceptance. The new line completely replaced the previous PM6, calling for a customised design of the process and the layout that respected the constraints of the available space and at the same time guaranteed the highest production efficiency. The AHEAD 2.2L tissue machine has a 5,500 mm sheet trim width, 2,000 m/min operating speed and a daily production of 220 tons.

Stevan Lomic, Technical Director of the SHP Group, says: “We achieved the target of equipping Paloma with advanced technology to produce at full capacity. We are manufacturing premium quality tissue, and are very happy with product quality. Toscotec has shown extreme flexibility in these challenging times and has completed the project with great professionalism.

Stefano Raffaelli, Project Manager at Toscotec, says: “Paloma’s project started off as a particularly interesting and challenging one, where we tailored our solutions to the existing plant and managed the necessary changes during the course of the project focusing on our targets. The Covid-19 outbreak posed an even bigger challenge, but we tapped into our great flexibility and ability to take fast decisions when faced with unexpected events in order to respect the timeline. With great cooperation from Paloma’s team we accomplished our common goal.”

Paloma’s annual production capacity is 90.000 tonnes of tissue and it currently employs 535 people. Paloma is predominantly export- oriented and it currently holds the position of market leader in South-East Europe. From 2017, Paloma is part of Slovak Hygienic Paper Group.



Toscotec AHEAD 2.2L tissue machine at Paloma’s Sladki Vrh mill, Slovenia

AUSTRIA

ANDRITZ and Suominen – a successful partnership

International technology Group ANDRITZ and Suominen, a global manufacturer of innovative and sustainable nonwovens, have been working together successfully as business partners for the past few years.

ANDRITZ has supplied and upgraded several spunlace lines and most recently supplied a Wetlace™ line for production of high-quality products such as flushable wipes, baby wipes, personal care and household wipes, thus supporting Suominen in reaching its goal to be the frontrunner in nonwovens innovation and sustainability.

Over the years, Suominen has developed its production improvement plans and identified important optimization potentials. Suominen has upgraded several machines and lines to a higher performance level and decided to retrofit some of their existing spunlace lines in collaboration with ANDRITZ. This enables Suominen to maintain its excellent performance in production and the highest product quality that is key in the ever more demanding nonwovens market. Most recently, Suominen and ANDRITZ signed a service agreement for Metris Remote Assistance, which allows the Suominen equipment operators to have full online support from the ANDRITZ process experts.

ANDRITZ and Suominen also work closely together in R&D at the ANDRITZ technical centers, which host a spunlace line on industrial scale and a wetlaid pilot line. All this supports Suominen in further developing new products and meeting future demands in terms of sustainability. Petri Helsky, President and CEO of Suominen: “ANDRITZ has been supporting us for years with our developments, allowing us to offer our customers some of the most competitive and highest quality products in the world. ANDRITZ also provides Suominen with first-class service, which enables us to produce sustainable nonwovens for our customers.”

Andreas Lukas, Senior Vice President and Division Manager, ANDRITZ Nonwoven: “Suominen is one of the world’s largest suppliers of wipe roll goods. We are proud to contribute to new generations of wipes together with Suominen. Suominen renews its trust in ANDRITZ continuously. Our worldwide service organization assists Suominen by providing original spare parts and process support to maintain their production lines”.



ANDRITZ Spunlace technical center

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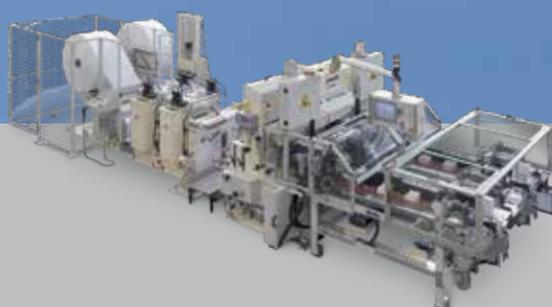


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ROMANIA

ANDRITZ to supply spunlace line for Minet

International technology Group ANDRITZ has received an order to supply a neXline spunlace eXcelle line to Minet S.A, based in Ramnicu Valcea, Romania, for processing various fibers from 25 to 70 gsm to produce a wide range of hygiene products. Start-up is expected during the second quarter of 2022. The production capacity of the line, which will be the first of its kind in Romania, will be 10,000 tons a year, while the operating speed will be up to 250 m/min and the maximum output at the carding outlet around 1,500 kg/h. ANDRITZ will deliver a complete line, from web forming to drying. The line will integrate one high-speed TT card, the robust Jetlace Essentiel hydroentanglement unit equipped with a neXecodry S1 system for energy saving, and a neXdry double-drum through-air dryer.

Cristian Niculae, Commercial Director at Minet, explains: "The Minet group is a company with a long-term vision and sustainable growth. Our strategy has always been to identify and fully meet market needs. The main reason why we decided in favor of a spunlace process was the fast development of our local wipes market recently. Romania should have spunlace nonwovens, so Minet – as the local frontrunner in nonwovens – has decided to become the first factory there using this technology." The close collaboration between ANDRITZ and Minet in needlepunch was an important consideration in the choice of supplier for the spunlace line as well as the fact that ANDRITZ is recognized as the benchmark for production of premium spunlace roll goods.

Just recently, ANDRITZ successfully completed the commissioning of a neXline needlepunch eXcelle line for Minet. This line is dedicated to the production of automotive products made from a large variety of fibers. For this contract, ANDRITZ delivered a complete line from fiber preparation to end-of-line, also integrating card, crosslapper, batt drafter, two needlelooms and a Zeta felt drafter with a working width of more than 6 m. The line is also equipped with the unique ProDyn web profiling system, operating as a closed-loop control system in order to ensure perfect evenness of the products. Founded in 1983, Minet is the most important producer of nonwovens in Romania and serves more than 1,000 customers. The company delivers about 20 million sqm of needlepunched felts per year and offers products with the highest quality standard and which are used in many different fields, such as automotive, geotextiles, and wadding.



ANDRITZ needlepunch line at Minet (Ramnicu Valcea, Romania).

SWEDEN

Cellwood acquires Metrans

Cellwood Machinery acquires Metrans, one of Scandinavia's leading companies of bale handling and waste paper handling for papermills.

This acquisition made on 1 March 2021 reinforces Cellwood Machinery's leading position in the global pulp and paper industry.

"Metrans is a solid, well-managed company with a strong brand. With this addition, our existing range gets a boost and becomes wider, whilst at the same time we can expand with several new product areas. We're very pleased and satisfied with this acquisition," says Henrik Lefvert, CEO of Cellwood Machinery.

Metrans will continue as a stand-alone company as part of Cellwood Machinery, which also includes Algas GmbH.

Bo Emanuelson, CEO of Metrans and former owner, looks forward to continued development of the operations. "It feels highly inspiring to be part of the Cellwood Group. The companies complement each other and give us favourable conditions for increased growth."



From left : Henrik Lefvert, CEO of Cellwood Machinery and Bo Emanuelson, CEO of Metrans

Lucart continues internationalization plan in UK

Lucart S.p.A., the Lucart Group head company based in Porcari (Lucca, Italy), has announced the acquisition of 100% of the share capital of ESP Ltd (Essential Supply Products Ltd.), the leading independent manufacturer of tissue paper products for the Away from Home market in Great Britain. The acquisition has been officially effective since March 1st, 2021.

Founded in 1990, the headquarters and production plant of Essential Supply Products Ltd are based in Malvern, in Worcestershire. Today, the company has a turnover of around 30 million Euros per year. The manufacturing plant was set up in 2017-18 and is spread over an area of 77,000 sq.m., of which 15,000 sq.m. is covered. The company employs 85 people on five different processing lines. Its position, market and production type will allow important synergies to be activated with the other plants of the Lucart Group. The relationship between Lucart and ESP goes back a long way as some of the paper processed at the Malvern site comes from the Lucart mills.

The acquisition of ESP Ltd is fully in tune with Lucart's development and internationalisation plan, decisively contributing to consolidating its position as a primary player in the European Away from Home hygiene products market. "The operation is of strategic importance for the entire Group because it allows us to consolidate our presence in Great Britain, that is the second-largest market in Europe for tissue paper products", Massimo Pasquini, CEO of Lucart commented.

"Our financial solidity and our willingness to pursue the strategic objectives of the Group, together with the awareness that the difficulties related to the historical moment we are living should not make us lose sight of our long-term vision", Pasquini added. "We have overcome even the uncertainties generated by Brexit and the COVID-19 pandemic, completing this important further step for the future development of the Lucart Group".

Carl Theakston Founder of ESP Ltd, who will be collaborating in person to facilitate the handover, commented on the milestone: "Over the years, we have made numerous transactions to allow ESP to continue to compete at the highest level. However, I realised that the standard of investment required to make my ambitions for this company a reality needed an investor who shared ESP's family values and had the vision and desire to grow the company sustainably and to its full potential." "Lucart is a family-owned multinational group that has been operating for 68 years", Theakston concluded. "Its history, vision and commitment to sustainable development models make it the ideal investor for ESP's adventure to continue in the best possible way".

Equita K Finance and Orbis Partners, respectively Italian and English partners of Clairfield International, were financial advisors to Lucart, Mills & Reeve legal advisor and Mazars took care of the due diligence.



Headquarters and production plant of Essential Supply Products Ltd, Malvern, Worcestershire.

FINLAND

Valmet to supply an extensive tissue machine rebuild to Metsä Tissue's Mänttä mill

Metsä Tissue has selected Valmet as the supplier of an extensive rebuild of their tissue machine PM 10, including control system, at the Mänttä mill in Finland. The investment is part of their Future Mill program with the target to improve the mill's energy and production efficiency and increase its production capacity. It will also allow for improving product quality, according to consumer customers' expectations.

The order is Valmet's third Advantage ViscoNip press installation for Metsä Tissue. The reliable technology has previously been installed at Raubach TM 1 in Germany and at Paulström in Sweden. The good results and collaboration in those projects convinced Metsä Tissue to choose Valmet also for the extensive upgrade of the Mänttä PM 10 machine.

"This is an important step in our strategy towards even better industrial efficiency and product quality. The paper machine's renewal will provide consumers with increasingly soft and strong paper while significantly reducing the amount of energy used to produce it. This will reduce carbon dioxide emissions in accordance with our sustainability goals," says Kari Karttunen, VP of Production of the Mänttä mill, Metsä Tissue.

"We are honored to get the opportunity to contribute to Metsä Tissue's strategic path for a more sustainable production of high-quality tissue products. It is also a proof of our Advantage ViscoNip press' capabilities and fit for rebuilds with the target to improve runnability, energy efficiency, capacity and product quality," says Björn Magnus, Sales Director, EMEA, Tissue Mills business unit, Valmet.

Valmet's scope of delivery will comprise a new press section including an Advantage ViscoNip press. The drying section will be equipped with a steel Advantage Yankee Dryer and an Advantage AirCap hood. The scope also includes Valmet DNA system featuring the new Valmet DNA Drive and Safety controls, mill engineering, installation supervision and auxiliary systems.

CHINA

Hengan to install China's first TAD machines

Toscotec will supply two TADVISION® tissue machines to Hengan International Group at its Shandong and Hunan mills in China. Toscotec's TADVISION® line is designed to ensure superior bulk, softness and absorbency. With this order, Hengan breaks through the barrier of conventional and textured tissue in the Chinese market, aiming to manufacture top quality structured tissue with the highest bulk, softness and absorbency properties. The start-up is scheduled for 2022. The new lines will be the first real TAD (Through Air Drying) machines manufacturing structured tissue to be installed in China. The Fujian-based Chinese Group is thus set to lead the transformation of the Chinese tissue market towards top quality tissue.

Both TADVISION® machines will have a trim width of 3,650 mm and an annual production capacity of over 40,000 tons. This project strengthens the cooperation between Toscotec and Hengan International Group, who in 2017 successfully fired up two Toscotec-supplied MODULO-PLUS ES tissue lines at its Changji mill in Xinjiang province. Hui Lin Chit, CEO of Hengan Group, says, "Hengan always pursues innovation and top quality products; as a result, it leads the development of the Chinese tissue and hygiene market. After scrupulous evaluation, we selected Toscotec as the partner to support us to achieve our new target." Alessandro Mennucci, CEO of Toscotec, says, "We are very pleased to partner with Hengan on this strategic project. Toscotec's new TADVISION® machine represents the cutting-edge technology they need to bring about a historical change in the Chinese market."

Michael Zhao, General Manager of Toscotec Paper Machine (Shanghai) Co., Ltd., says, "The Chinese tissue market has been tackling the issue of overcapacity in recent years. Our latest TADVISION® machine will enable Hengan to manufacture a completely differentiated and top quality product. This will allow them to both set apart from the fierce red ocean competition of conventional tissue, and to open up and lead an entirely new, blue ocean structured tissue market."



Hengan and Toscotec during contract signature; in the first row (from right to left): Hui Ching Chi, Hengan Executive Director and Operation Management Director, and Michael Zhao, General Manager of Toscotec Paper Machine (Shanghai); in the second row (from right to left): Liu Xuan, Hengan Chief Papermaking Engineer, Hui Lin Chit, Hengan CEO, Mike Yin, Toscotec Paper Machine (Shanghai) Sales and Project Support and Chen Wenzhi, Hengan Purchasing Manager. Photo: Toscotec

Research and development, Manufacturing base of intelligent equipment for household paper--

China Lucca·jiangxi xiushui

Facial Tissue Folding Machine



**Automatic tissue log transfer
(match to interfolder on the left)**



Model:5T/6T/7T/8T/9T/10T

Max. width of base paper:1350-2100 mm

Folding speed:500-1000 sheets min/line

Start-Stop Model Toilet Tissue Rewinder



OK-250 Type Double Lanes High-speed Handkerchief Tissue Production Line



Packing Speed: ≤250 bags/min

Jumbo roll width:2200/2800mm

Machine's speed:≤200 m/min

Finished roll tissue diameter:φ70-150 mm



欧克

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Xiushui County, Jiujiang City, Jiangxi Province**

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CHINA

Suzhou Taison Paper Mill boosts capacity by 120,000 tpy

ANDRITZ has successfully started up two PrimeLineST tissue production lines delivered to Suzhou Taison Paper Co. Ltd., China. The two Crescent Former tissue machines (TM13, TM15) of the type PrimeLineST W8 have a design speed of 1,900 m/min, a paper width of 5.6 m, and a total design capacity of up to 120,000 tons of tissue per year. The machines process pre-dried bleached bamboo pulp, NBKP and LBKP market pulp to produce high-quality facial tissue, toilet paper, paper towels, handkerchiefs, and napkins. Both tissue machines are equipped with an 18 ft. PrimeDry Steel Yankee and a PrimeDry Hood ST with steam heating to enable highly efficient drying while saving energy.

The steel Yankees were manufactured at the ANDRITZ Steel Yankee Business Center in Foshan, China. They are metallized with PrimeCoat Stratos 2.0, the latest generation of ANDRITZ coating, to provide greater hardness and extended Yankee lifetime. The scope of supply also includes the stock preparation system, comprising two separate lines processing short fiber pulp and a mixture of bamboo and long fiber pulp as raw materials, the approach system, and the saveall DiscFilters for fiber recovery.

Thanks to the excellent cooperation between Suzhou Taison Paper and ANDRITZ China, the project management and on-site services, it took just 15 days from commissioning to start-up for TM13 and almost the same time for TM15. Both lines went into operation smoothly. Mr. Liao Jingfu, General Manager, Suzhou Taison Paper Co., Ltd., comments: "It was a challenging project. We highly appreciated the support from the ANDRITZ experts, their professional service and dedicated attitude. In addition, they have a unique logistics concept that enables smooth and trouble-free transport of the Yankees."



ANDRITZ successfully starts up two PrimeLineST W8 tissue production lines at Suzhou Taison Paper in China.

THAILAND

Berli Jucker Cellox starts up new tissue line

ANDRITZ has successfully started up the tissue production line delivered to Berli Jucker Cellox Ltd. for their mill in Prachinburi, Thailand. The PrimeLineCOMPACT tissue machine has a design speed of 1,900 m/min and a paper width of 2.8 m. A PrimePress XT Evo shoe press installed there dewater the web gently, but still achieves a far higher post-press dryness than conventional presses. The 16 ft. PrimeDry Steel Yankee is made entirely of steel, having an evaporation rate that is 10-15% higher than that of cast iron models, which results in 8-10% better machine performance. This combination – the latest shoe press technology and a steel Yankee – leads to a high drying capacity and achieves remarkable cost savings and operational flexibility as well as improved product quality. The entire line is equipped with an ANDRITZ PrimeControl automation package, providing an optimized production process.

The line was started up successfully under very challenging conditions due to the Covid pandemic. A key part of this success is thanks to Metris – the ANDRITZ digitalization platform – which ensures maximum mill performance at Berli Jucker Cellox, Prachinburi. In these challenging times with their travel restrictions, Metris effectively reduced personal contact by making use of remote functionalities. Remote assistance by ANDRITZ specialists enabled a straightforward commissioning-to-start-up phase and, in addition, ensures constant optimization of production processes, operator troubleshooting and decision support.

"I can remember when we first started talking about commissioning during the pandemic and, to be honest, we both felt some uncertainty given the challenging circumstances," explains Tine Kocbek, ANDRITZ Project Manager for Tissue. Apinan Laocharoensuk, Managing Director of Berli Jucker Cellox Ltd., adds: "It took a lot of courage from both sides and also mutual trust to agree on such an arrangement. We really appreciated the excellent teamwork by the ANDRITZ colleagues from Europe and China. Today, we can confirm, it was the right decision!"



ANDRITZ successfully starts up a PrimeLineCOMPACT tissue production line at Berli Jucker Cellox, Thailand. Photo: ANDRITZ

JOA Announces Expandable Absorbent Core Wrap Solution

Curt G. Joa, Inc., a global, custom-engineering design and machine-building company, announced the invention of an expandable absorbent core product feature and machine process technology.

The new patent-pending design from JOA allows the core to expand within the containment wrap, regardless of the blended fluff and Super Absorbent Polymer (SAP) ratio. Essentially, the core grows as the product is insulated. The expandable wrap allows cores to be designed with higher amounts of SAP which results in thinner products that have higher absorbency.

Chris Nelson, business development manager and co-inventor, explains more, “As SAP designs evolve, products now contain higher quantities of SAP, and these new SAP designs absorb more fluid than ever before. Performance of the core depends on allowing the SAP to work.

Therefore, there was a need for accommodating the core swell and expansion of SAP as fluid transfers through the product.”

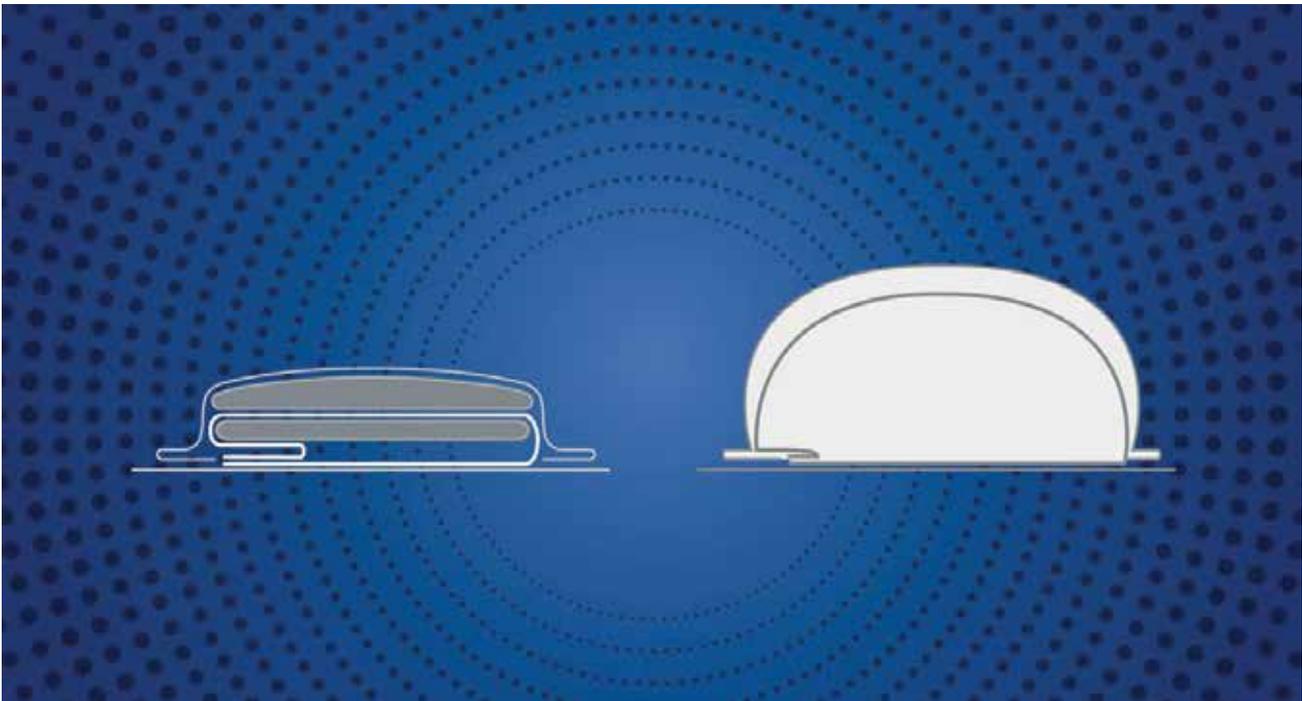
“JOA machines ensure core integrity by keeping core materials contained, reducing the risk of leakage which decreases skin irritation and improves skin health,” added Scott Roehrborn, machine platform manager and co-inventor.

Additional product design features now being announced include:

- Core edge definition that rivals die cut;
- Balanced SAP distribution with more consistent core weights;
- Single or dual dusting layer capability with homogenous blend of fluff and SAP.
- For more information, visit www.joa.com/expandablecore.

About Curt G. Joa, Inc.

Curt G. Joa, Inc. is known globally for engineering and technical inventiveness. Located in USA, Germany, and Japan, professional engineers, technician crews and assembly staff are building thriving partnerships with customers to create the innovative and sustainable solutions that convert challenges into successes. Since 1932, JOA has been the standard in quality and efficiency.



Expandable Core Wrap

Papel San Francisco's new tissue line reached 2,200 m/min in seven days

Even though the ongoing pandemic prevented Valmet to be on site during the installation phase, Papel San Francisco's new Valmet Advantage DCT tissue line produced its first tissue roll according to specification and schedule. And only seven days later the machine was up and running at a speed of 2,200 m/min. This is the fifth Valmet machine installation at the mill in Mexicali and the Advantage DCT 100TS machine was selected due to its energy efficiency even at high-speed production. Paper specifications were fulfilled from day one.

The new tissue machine has a width of 2.8 m and a design speed of 2,200 m/min and will add 30,000 tons tissue paper per year to Papel San Francisco's current production of toilet tissue, kitchen towels and napkins.

"Our philosophy is to go for low energy consumption and lowest possible emissions to air and water. The Advantage DCT technology is the most efficient and best choice for the grades we will produce. With this new tissue line, we expect to produce the best tissue quality combined with the lowest energy consumption" says Dario Palma y Meza Espinoza, Operational Director, Papel San Francisco.

"Papel San Francisco (FPS) is a very experienced customer and a pleasure to work with. From Valmet we supported the installation remotely from Karlstad, Gorizia and Thunder Bay. All aspects were well planned, and the mill team were highly skilled and committed to achieving optimal performance" says Anders Lorentzon, Project Manager at Valmet.

Running as fast as possible has been part of PSF's strategy ever since the start of their first tissue machine. Their machines are continuously running at high speed and the previous installation of TM 7 in 2017, reached 2,000 m/min in 48 hours. Papel San Francisco started up their first tissue machine in 1980. In the past 40 years the company has grown steadily and are today operating seven tissue machines with a yearly capacity of 204,000 tons of tissue products.

Cascades Tissue Group wins energy award with ANDRITZ technology

ANDRITZ recently completed successful replacement and start-up of the PM5 Yankee hood at Cascades Tissue Group's tissue mill in Eau Claire, Wisconsin, USA. The ANDRITZ PrimeDry Hood is specially designed for low energy consumption and long durability. With this upgrade, production output of the PM5 – a medium-speed tissue machine for dry-crepe tissue with a 12 ft. Yankee – has increased remarkably while reducing specific gas consumption by the hood.

Due to the energy savings achieved, Cascades Tissue Group Wisconsin was awarded the 2020 Energy Efficiency Excellence Award by FOCUS ON ENERGY®, Wisconsin's energy efficiency and renewable energy resources program. This program encompasses 107 utilities across the state, with the goal of providing expertise and financial incentives to residents and businesses to reduce energy consumption or increase energy efficiency. The Energy Efficiency Excellence Awards honor participants who have shown a commitment to leading in energy efficiency.

The project was executed by the ANDRITZ tissue team located in the Montreal office, QC, which provides support services for tissue machines and for air and energy systems in the Americas market.

Sadith Osseni, Energy Project Engineer at Cascades Tissue Group Wisconsin, explains: "We have been working with FOCUS ON ENERGY® for years now. We are proud of having received the Energy Efficiency Excellence Award, and the good results obtained from the hood project with ANDRITZ contributed to the mill getting this."

George Nowakowski, ANDRITZ Vice President Tissue Drying North America, adds: "On a tissue machine, the Yankee hood is a key component due to its consumption of energy and its impact on the quality of the final product. Therefore, it is essential to operate the Yankee hood by the most efficient and economic means possible. The critical parameters are air impingement speed, wet- and dry-hood temperatures, exhaust humidity, and steam pressure in cylinder."



Close-up view of the PrimeDry Hood with Yankee at Cascades Tissue Group Wisconsin. Photo: ANDRITZ

VIETNAM

ANDRITZ successfully starts up tissue production line delivered to Xuan Mai Paper

ANDRITZ has successfully started up the PrimeLineCOMPACT tissue production line delivered to Xuan Mai Paper Co. Ltd. for its mill in Ho Chi Minh City, Vietnam. The energy-efficient tissue machine has a design speed of 1,300 m/min and a paper width of 2.85 m and produces high-quality tissue grades made of either 100% virgin or 100% deinked pulp (DIP). It is equipped with a 15 ft. steel Yankee with a PrimeDry Hood COMBO from ANDRITZ Novimpianti. The innovative hood design – a pressurized wet chamber heated with steam and a special dry chamber – enables highly efficient drying while saving energy.

The scope of supply includes a separate DIP line (to be started up this month), a stock preparation system for LBKP/ NBKP market pulp, an approach flow system, a fiber recovery and broke handling system, machine clothing by ANDRITZ Fabrics and Rolls, basic and detailed engineering, as well as process pumps for water and pulp. The entire line is equipped with an ANDRITZ PrimeControl automation package and an advanced multi-motor drive system.

Thanks to the excellent cooperation between Xuan Mai Paper and ANDRITZ China, the tissue production line went into operation smoothly despite the very challenging conditions relating to COVID- 19.

Mr. Phạm Văn Dũng, Director of Xuan Mai Paper Co., Ltd., comments: “We had a tight and demanding time schedule. From the very beginning, ANDRITZ put excellent people on this project and they managed all aspects of their work very well. Their support day and night right up to start-up of the machine was excellent. All the members of our Board and I too are very pleased that we succeeded in completing this project together in these difficult times.”



ANDRITZ successfully starts up a PrimeLineCOMPACT tissue production line at Xuan Mai Paper, Vietnam. Photo: ANDRITZ

MEXICO

A.Celli supplies IDEAL® and E-WIND® solutions for the newly inaugurated Blue Tissue plant in Mexico

In February 2021, Governor Marco Mena inaugurated Blue Tissue, a company dedicated to the industrial production of paper located in the municipality of Yauhquemehcan.

Carlos Morodo Díaz, General Director of Blue Tissue, pointed out that the company is equipped with state-of-the-art machinery for the production of paper in the healthcare sector, and an extensive national distribution network that represents 3% of paper production in Mexico and more than 15% in commercialization of professional hygiene products.

A.Celli Paper, thanks to the supply of its Tissue Machine IDEAL® and Winder E-WIND® solutions, is proud to be a part of this success.



Inauguration of Blue Tissue, Mexico

BAOSUO GROUP

Baosuo Group enters the Middle East Market with a Turnkey Solution for Tissue Paper Equipment

Recently, a leading light industry enterprise in a country in the Middle East announced a new high-end household paper industrial project with an annual output of 35,000 tons (the first phase is 17,500 tons, the second phase is 17,500 tons). At present, the company has signed a package purchase contract with Baosuo Enterprise Group, covering the overall supporting equipment of this project from paper making, paper converting to packing.

The first phase of the overall supporting equipment can meet the daily production capacity and requirements of 50-60 tons/day of high-end household paper, including:

- One set of pulp preparation system with a daily output of 60 tons of commercial pulp;
- One set of 5,000 tons/day of white water recovery and filtration system;
- One set of BC1300-2850 Crescent Former Tissue Machine;
- One set of PF-EA3000 Automatic High Speed Jumbo Roll Slitting Rewinder;
- One set of PL450C Non-Stop Toilet Roll/Kitchen Towel Rewinder Line;
- Two set of YH-FD1500 Automatic Facial Tissue Production Line, and multiple sets of automatic packaging systems for all converting production lines, etc.



PL450C Non-Stop Toilet Roll/Kitchen Towel Rewinder Line

The modern tissue production line provided by Baosuo Enterprise Group to the Middle East is scheduled to start at the end of this year. Earlier, the Chinese government's promulgation of the documents of "Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road" indicated that the "Belt and Road" construction has entered a specific stage of implementation. And various circles at home and abroad have also actively responded to the concrete implementation of the "Belt and Road" initiative. The Middle East is the intersection of the ancient land and sea "Silk Road" and the key area for the implementation of the "Belt and Road" today.

Huanlong Group increases tissue capacity

Huanlong Group officially launched the expansion project with an annual output of 50,000 tons of high-end tissue paper. The complete production line of this turnkey project is provided by Baosuo Enterprise Group, including stock preparation system, white water treatment system, 2 sets of BC1600-2850 Baotuo Crescent Former Tissue Machine and other complete set of converting equipment, etc.

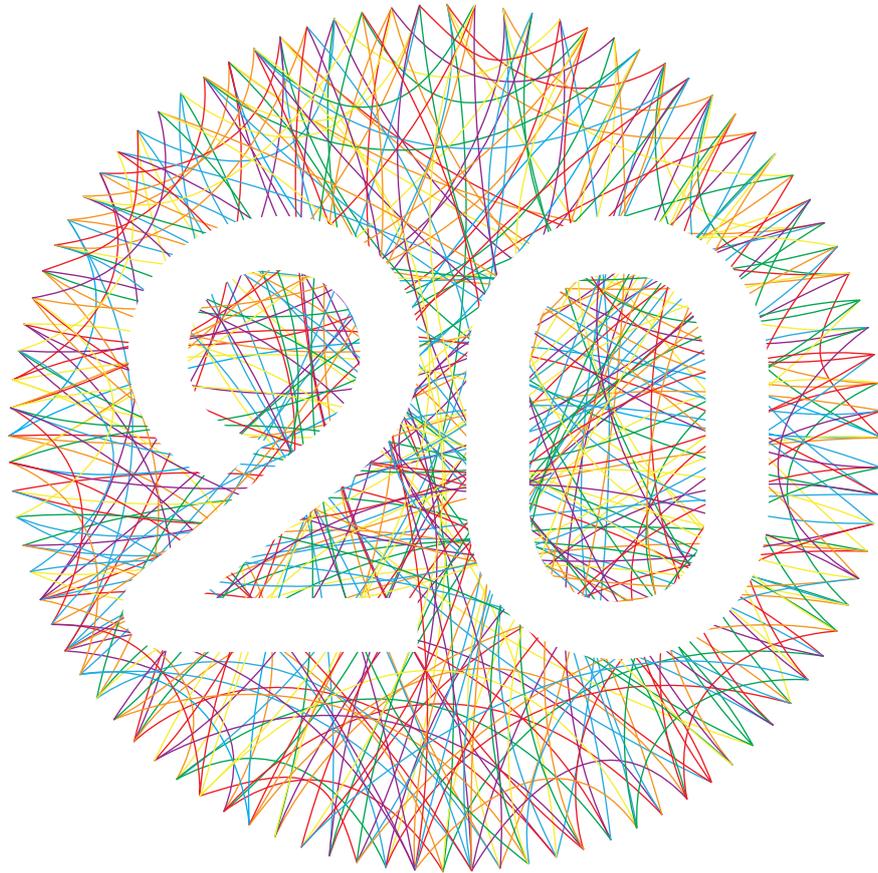


Baosuo Crescent Former Tissue Machine

The BC1600-2850 Crescent Former Tissue Machine is a new high-speed paper machine developed by Baosuo Company. It can not only meet the requirements of high-speed and high-yield, but also greatly reduce the cost of paper making. At the same time, it also takes into account the unique fiber characteristics of Huanlong Group's unique natural bamboo pulp.

This project is located in Qingshen County, Meishan City, Sichuan Province. It is one of the supporting projects of «Sichuan Huanlong BABO 200,000 tons of biomass refining project». And it is also the fourth strategic project of Huanlong Group's BABO brand and Baosuo Enterprise Group. The third phase of the cooperation between the two parties in the early stage has allowed Huanlong Group to exceed its annual production capacity of 100,000 tons of tissue paper and converting capacity.

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BAOSUO GROUP

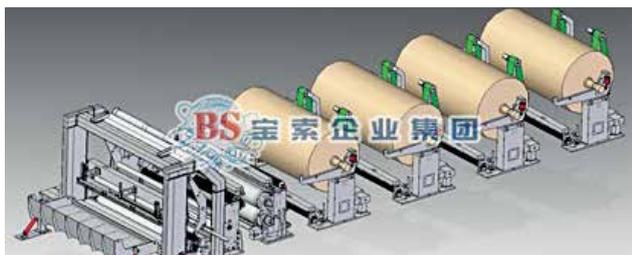
The first domestically built 5.6m PF-EG automatic high-speed jumbo roll slitting rewinder at Taisheng Group

The first domestically built 5.6m PF-EG automatic high-speed jumbo roll slitting rewinder delivered by Baosuo Enterprise Group to Taisheng Group started successfully. Recently, Baosuo Enterprise Group delivered a 5.6-meter-wide PF-EG automatic high-speed jumbo roll slitting rewinder to Taisheng Group. Taisheng Sheng Group is one of the partners that Baosuo Enterprise Group attaches great importance to and pays attention to. The two parties have launched many in-depth cooperation in the field of household paper. This time, the first domestically built PF-EG automatic high-speed jumbo roll slitting rewinder with a width of 5.6 meters started successfully, which once again embodies the concept of mutual trust, mutual benefit, and win-win cooperation. With the support of this machine and the ultimate services provided by Baosuo Enterprise Group, the industry position of Taisheng Group will be further consolidated and strengthened.

Baosuo Enterprise Group is the first domestic enterprise to launch the 5.6-meter high-speed slitting rewinder. According to the project chief engineer of Baosuo Enterprise Group, the PF-EG launched this time is developed and improved on the basis of the original PF-FB model. The new model is more sophisticated and the quality is more reliable. And it is an unconventional high-speed slitting rewinder which breaks the technological monopoly of foreign counterparts in this field, and greatly improves the competitiveness of domestic slitting machines in the international market. At the same time, this model has also achieved remarkable results in reducing comprehensive energy consumption, improving product stability and operating safety. It adopts full hydraulic control on rewinding, with high-precision on final product diameter and paper length. With a design speed of 1000 m/min, which can bring higher economic benefits to users!



Delivery site of Baosuo Enterprise Group



5.6m PF-EG automatic high-speed jumbo roll slitting rewinder provided by Baosuo Enterprise Group

The 2nd Baosuo Paper Machine to Yunnan Nan'en Sugar Paper

On March 5, 2021, the signing ceremony for the second phase of the high-speed paper machine project between Yunnan Nan'en Sugar Paper and Baosuo Enterprise Group was successfully held in Xiping, Yunnan.

Nan'en Company and Baosuo Enterprise Group signed the first Baotuo paper machine in May 2020, and started production earlier than originally planned on December 27 of the same year. Less than two months after the first phase of the project was put into production, Nan'en Company once again cooperated with Baosuo and signed the second phase of the project for expansion. This fully reflects its high affirmation of the stable performance of the Baotuo paper machine, as well as the recognition and satisfaction of the project service of the Baotuo team.

The 1st and 2nd Baotuo paper machines are Crescent Former Tissue Machine type, model BC1300-2850, with a paper width of 2850mm, and a design speed of 1300m/min.

It is reported that Nan'en now has an annual production capacity of about 40,000 tons of sugarcane pulp and bamboo eucalyptus pulp. Since the end of 2020, the price of international commercial wood pulp has been rising all the way, which has ushered in opportunities for Nan'en and other pulp and paper companies in the industry.

In order to achieve the corporate goal of high-quality development and meet the needs of transformation and upgrading and planning and development of the sugar paper industry, Nan'en Company is planning a transformation and upgrading project with an annual output of 102,000 tons of pulp, 102,000 tons of jumbo roll paper, and 102,000 tons of final paper.



YH-FD Automatic Facial Tissue Production Line

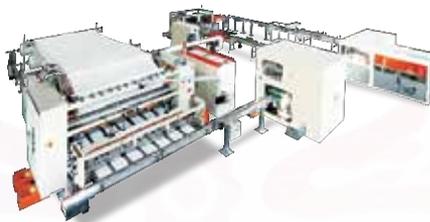


1. High speed-- the working speed is 100m/min or 10-11 logs/min. (120 sheets/log)
2. High work efficiency -- more than 2 times normal model. Need not people operation
3. Automatic separately system(inside system) --accuracy rate is 100% . Zero waste for produced
4. Save space--The work efficiency is 2 times normal model but only need 1 line space. So can save the space about 30-40%.

BaoSuo Enterprise Provide You The Turnkey Solution For Tissue Production



Tissue Machine



Converting Machine



Packing Machine

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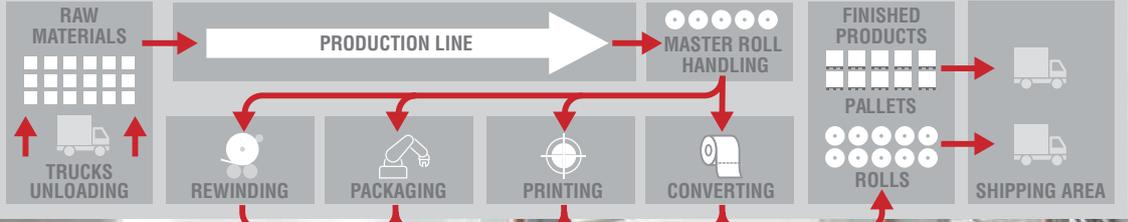
TISSUE PRODUCERS IN THE MIDDLE EAST AND NORTH AFRICA

Country	Company	Tissue Machine	Operating Speed (m/min)	Width (m)	Production Capacity (tons/year)	Supplier	Startup Year
Lebanon	Unipak Tissue Mill	PM1	1,500	2.7	22,000	Beloit	1995
	Sanitary Paper Co - Mimosa	PM4	700	2.3	7,000	Toscotec	1992
		PM5	850	2.1	8,000	Toscotec	1995
Jordan	Al Keena Hygienic Paper Mill	PM2	1,650	3.67	30,000	Voith	1995
	Al Snobar Hygienic Paper Mill	PM4	2,000	5.4	54,000	Valmet	2007
Syria	Saffoury Paper Mill Industries	PM1	800	2.6	-	-	2002
	Oriental Paper Manufacturing	PM1	600	2.7	9,000	Recard	1995
	Lanatex	PM2	1,100	2.72	17,000	Over Meccanica	2000
	Dinatex Paper Manufacturing	PM3	1,800	2.72	28,000	Over Meccanica	2007
	Mediterranean Paper Mills	PM2	900	2.25	-	Toscotec	2011
UAE	Abu Dhabi National Paper Mill	PM1	1,900	2.77	28,000	Over Meccanica	2002
		PM2	2,000	3.62	35,000	Over Meccanica	2007
		PM3	2,000	2.8	27,000	Valmet	2015
	Crown Paper Mill Ltd FZC	PM1	1,100	1.86	11,000	Beloit	2000
		PM2	1,700	2.75	24,000	PMT	2007
		PM3	2,000	5.6	60,000	Valmet	2019
	Queenex Hygiene Paper Mfg.	PM1	1,800	2.85	28,000	Over Meccanica	2012
	Star Paper Mill	PM1	1,700	2.85	30,000	Recard	2019
	Al Nakheel Paper Mill	PM5	2,000	5.4	54,000	Valmet	2018
Kuwait	Gulf Paper Manufacturing Co.	PM2	1,200	2.25	12,500	Carcano	1982
Bahrain	Olayan Kimberly Clark	PM1	1,250	2.6	14,000	Y.K.	1990
		PM2	2,000	2.8	28,000	Voith	2011

Country	Company	Tissue Machine	Operating Speed (m/min)	Width (m)	Production Capacity (tons/year)	Supplier	Startup Year	
Iran	Pars Hayat Saglik Urunleri S.H	PM1	2,200	5.6	70,000	Valmet	2013	
	Zarrin Barge Persia Paper	PM1	2,000	5.6	60,000	Valmet	2014	
		PM2	2,000	5.6	60,000	Valmet	2018	
	Harir Khuzestan Co.	PM1	1,000	2.7	15,000	Voith	1995	
	Latif Paper Co.	PM2	1,400	2.7	18,000	Andritz	2010	
	Aryan Cellulose Sanat Co.	PM1	500	2.8	10,000	-	2014	
	Golpoune Pars Industrial Co.	PM1	1,400	2.75	18,000	Over Meccanica	2014	
	Azerbaijan Narmeh Paper	PM1	1,800	2.9	30,000 (Closed)	Recard	2018	
Tunisia	Tunisie Ouate	PM2	1,100	2.7	16,500	PMT	2002	
		PM3	1,600	2.76	26,000	GapCon	2014	
	Azur Papier	PM1	1,500	2.75	22,000	Recard	2013	
		PM2	1,800	2.75	28,000	Recard	2018	
Morocco	Sipat	PM1	600	1.8	5,000	Toscotec	1978	
		PM2	1,300	2.75	16,000	Toscotec	1995	
	Jeesr Industries	PM1	2,000	2.8	30,000	Valmet	2013	
Algeria	Tonic Emballage Industrie	PM1	1,500	2.7	20,000	Valmet	2006	
	Faderco SPA	PM1	2,000	2.8	30,000	Valmet	2007	
		PM2	2,000	2.85	30,000	Valmet	2020	
	Africaine Paper Mills	PM1	2,000	2.85	30,000	Andritz	2019	
Egypt	Al-Sindian Paper Mill	PM1	1,600	2.25	17,000	Valmet	1991	
		PM3	2,000	5.4	54,000	Valmet	2005	
	Al Zeina Tissue Mill	PM1	2,000	2.75	30,000	PMT	2008	
	Alex Converta Company	PM1	1,500	2.85	24,000	Recard	2018	
	Carmen Tissues	PM1	800	1.7	6,000	ACelli	1995	
		Interstate Paper Industries	PM1	1,800	2.86	25,500	ACelli	2008
			PM2	1,800	2.86	25,500	ACelli	2010
		PM3	1,000	2.7	12,500	Recard	2012	
	Hayat Kimya Group	PM6	2,200	5.6	70,000	Valmet	2017	
	Mediterranean Tissue Mill	PM1	1,500	1.8	15,000	Beloit	2011	
		PM2	1,400	2.75	25,000	Over Meccanica	2014	
	Flora-Pyramids Paper Mills	PM1	1,000	2.5	10,000	Over Meccanica	1988	
		PM2	1,400	2.6	19,000	Voith	1995	
PM4		1,200	2.5	12,500	Over Meccanica	2007		

Country	Company	Tissue Machine	Operating Speed (m/min)	Width (m)	Production Capacity (tons/year)	Supplier	Startup Year
Turkey	Aktül Kagit Uretim Pazarlama	PM1	2,200	5.6	60,000	Valmet	2011
		PM2	2,200	5.6	60,000	Valmet	2016
		PM3	2,200	5.6	70,000	Valmet	2022
	Hayat Kimya San ve Tic. A.S.	PM1	2,200	5.55	70,000	PMT & Valmet	2006
		PM2	2,200	5.6	70,000	Valmet	2010
		PM5	2,200	5.6	70,000	Valmet	2015
		PM8	2,200	5.6	70,000	Valmet	2021
	Lila Kagit San. ve Ti. A.S.	PM1	2,200	5.64	70,000	Valmet	2007
		PM2	2,200	5.64	70,000	Valmet	2012
		PM3	2,200	5.64	70,000	Valmet	2020
		PM4	2,200	5.64	70,000	Valmet	2021
	Ipek Kagit Tissue / Eczacibasi	PM1	900	2.2	15,000	ER-WE-PA	1970
		PM2	1,600	2.7	35,000	Beloit	1991
		PM3	2,000	5.4	60,000	Beloit	2000
		PM4	2,200	5.6	70,000	Valmet	2015
		PM5	2,200	5.6	70,000	Valmet	2022
	Levent Kagit San. ve Tic. A.S.	PM2	1,400	4.40	24,000	Voith	2002
	Parteks Kagit	PM2	900	2.75	6,000	Beloit	1996
		PM3	1,600	2.85	26,000	Toscotec	2014
	Europap Tezol Kagit San ve Tic	PM1	1,600	2.85	25,000	Recard	2016
		PM2	1,800	2.85	30,000	Recard	2009
		PM3	2,000	2.85	30,000	Valmet	2015
		PM4	2,100	2.92	40,000	Toscotec	2022
Viking Kagit ve Seluloz A.S.	PM1	550	4.5	15,000	ER-WE-PA	1971	
	PM2	1,500	2.76	27,000	Valmet	1999	
Essel Cellulose	PM1	1,600	2.8	25,000	ACelli	2006	
	PM2	1,800	3.1	32,000	Recard	2015	
Eka Kagit	PM2	1,500	2.85	25,000	Over/ABK	2014	
	PM3	2,000	2.85	30,000	Over	2016	
KSA	Gulf Paper Industries Factory	PM1	1,500	2.8	28,000	Over Meccanica	2007
	Saudi Paper Manufacturing	PM1	1,700	2.75	18,000	Recard	1992
		PM2	2,100	2.85	30,000	Toscotec	2022
		PM3	1,600	3.6	22,000	Recard	2001
		PM4	2,000	5.5	60,000	Valmet	2008
	Al Faris Paper Mill	PM1	2,000	2.85	28,000	Papcel	2019
	MEPCO	PM1	2,200	5.6	60,000	Toscotec	2023

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Pandemic brings back

DISPOSABLE VS RE-USABLE

debate

Raymond Chimhandamba, *Handas Consulting*
(Africa Market Nonwoven/Hygiene Specialist),
Johannesburg, South Africa

There are very interesting similarities in what we are seeing between disposable and re-usable face masks in Africa with what we have seen in the diaper category about 2 decades ago.

The mask, a new consumer product category

With the onset of the pandemic around the last quarter of 2019, the demand for face masks has spiked since then. A new category was created overnight, driven by legislation in almost every country and the need to have all citizens protected from the COVID-19 pandemic. In most countries it became law to wear a face mask and you would not have access to the retail spaces and other public spaces unless you are wearing a face mask. In addition literally every living citizen got the message

loud and clear and in their own language and dialect, about the benefits of wearing a face mask as protection against the COVID-19 virus.

There was no question to the consumer why the product was needed and how to use it effectively. Very quickly demand outstripped supply by multiple factors. New players came in to fill the gap. In mining countries such as South Africa, manufacturers of face mask for the mining sector and other industries that need masks to deal with fumes or dusty environments were well placed to

pivot to manufacturing surgical masks for the front line workers as well as the general population.

Entrepreneurs also stepped in as they diversified or started completely new businesses in mask manufacturing and personal protection equipment (PPE). The only question was what spec the product met and that would determine which channels and user market the manufacturer was targeting. This varied from front line staff in the medical space, who needed a specific spec that met WHO and other local

health protocols and standards that were harmonised with the international standards, to the general population. Before long face masks were now readily available in retail globally and also at till check out points in retail.

In countries with robust textile industries like Kenya, Mauritius and Ethiopia, garment manufacturers also pivoted to manufacture re-usable cloth masks as well as disposable face masks. Big textile manufacturers like CIEL and Hela were among the companies that quickly pivoted to mask manufacturing from cloth and nonwoven materials. In West Africa, where there is a culture of national dress, one began to see people wearing face masks that matched their dress, or bow tie or even head dress, amongst women as well as men. This gave cloth masks a great advantage in terms of versatility in design and colour options. For kids, cartoon animations also became popular as mask designs, also as a way to encourage them to take a liking to wearing this new item daily. Although available mostly in the ubiquitous sky blue colour in the beginning, disposable masks also began to come in different colours.

From Tie Backs, to Rope to Tape Ear Loops

For some reason, in the Africa region, at first the consumers preferred tie backs over the rope ear loops for face mask. But because most masks came with the rope ear loop format, in due course, tie back masks became less and less available in the market. I got a few enquiries from manufacturers who were looking for an option to change their Chinese mask making machines from rope to tie back format. Tie back also slowed down production. In time, masks with the rope option were more available in the market and one does not see masks with the tie back option very much anymore. The rope option is a bit uncomfortable to the ears and I have seen products on the market that join the rope at the back of the head to relieve pressure on the ears. I have also seen consumers use simple products such as paper clips and rubber bands to join the rope ear loops at the back of the head. But after wearing face masks pretty much daily for the past year, what started as an uncomfortable feeling, our

ears have also been trained to get used to holding face masks.

A more recent trend is that the ear loops are coming in a tape format that that is much gentler to the ears, because it is thicker and softer. The way the tape stretches and its thicker format definitely makes it more bearable when you have to wear a face mask for long periods. One of the region's key mask manufacturers, Wemy Industries is has been making their face masks with tape ear loops instead of rope for a while now, proving that this may be the new trend that will grow.

In terms of colours, black is one of the most popular colours, whether in disposable masks or cloth. Some manufacturers even want to ensure the product looks good in black by having the meltblown filter layer also in black. But where black meltblown is not available, a thicker outer spunbound layer covers the white underlying meltblown quite effectively.

Re-usable versus Disposable

Re-usable masks come at a lower price point per duration of use versus disposable. As a result, about 70% of the market is cloth re-usable masks. Apart from the price advantage, re-usable masks offer the ability to match your outfit, in the case of traditional African dress, as the mask could be made from the same material. Disposable masks, although at a higher price, also offer several advantages. Disposable masks vary significantly in quality, with some masks not even having meltblown at all to as filtration material when you cut them open to having the 3 layer meltblown. The Africa regional price point has stabilised at around \$0.08 per piece for surgical masks of EN14683 standard in most markets, although prices as low as \$0.05 are not uncommon. Prices continue to drop but at a much lower rate now.

The disposable face mask offers a number of advantages, especially for glass wearers. The slim format is less bulky, offering the option to wear your glasses above the mask and the nose clip helps a lot with the irritating challenge of the glasses misting. The issue of bulky versus slim is one that

we have seen in baby diapers before. In the same way, a mother that is on a trip with a baby, knows well the convenience of disposable diapers. A pack to 10 cloth diapers requires a whole bag to pack, while a pack of 10 disposable diapers will probably fit in a handbag.

The prices of baby diapers have been coming down over the years and the quality improving, the diapers themselves getting thinner and less and less bulky. We used to see mothers alternate between cloth diapers and disposable, depending on the events of the day. If she is travelling, so that she does not have to pack so many bags, disposable diapers were the preferred option, whether she is travelling by car or bus, it was just way better to work with disposables.

A report on Nigeria disposable diaper usage from 10 years ago also shows similar trends where mothers would have their babies wear cloth diapers during the day, when the helper is around to check if the diaper is wet or not, and is likely to change it before it causes potential nappy rash issues. But at night, when the working mother needs a good night's rest, a good quality disposable diaper that can last through the night meets her needs better. This was done as a way to manage the high cost of disposable diapers. And more and more working mothers also drove the disposable diaper trend. Today, the market is generally over 80% disposable diaper compared to cloth diapers.

In the same way discussions with face mask users also show that depending on the tasks for the day, users also alternate between cloth masks and disposable, also as a way to manage costs while enjoying the product convenience for the task at hand. One consumer says, "If I have to be in a room with people, and I have to discuss while wearing my glasses to see the screen, I find a disposable mask works best. The thinner material allows me to wear my glasses, they do not mist and people can hear me better, I do not have to repeat myself as much".

“ Demand for disposable masks reached its peak at 12 billion pieces in 2020. Post pandemic demand is estimated at between 3-6 billions. ”

Africa Market size and key players

A study by Excelsior Group in the Africa region and paid for by Big Win Philanthropy of USA indicates that pre-COVID demand for disposable masks was at around 2 billion pieces. Demand reached its peak at 12 billion pieces in 2020. Post pandemic demand is estimated at between 3-6 billion pieces.

We have seen significant investment in the form of new manufacturing equipment for making masks as well as testing equipment. Government departments were the most equipped departments for testing facilities, although now some universities are also beginning to get the equipment too. Funding has come from Development banks in the region and overseas and Mastercard Foundation and IFC have also been very active in funding COVID-19 related projects. Wemy industries, a key player in the nonwovens space in Nigeria is the market leader in wet wipes and also manufactures baby diapers and adult incontinence products. Wemy industries got funding from Mastercard Foundation and installed a 20M a month capacity to make face masks. With this capacity, Wemy is likely to dominate the ECOWAS mask market and appears to have all the advantage to achieve this, having good raw materials supply relations already in place from their current nonwovens operations, as well as established credit relations with most suppliers.

Hayat, another key player in the region, with a \$100M state of the art diaper and tissues manufacturing facility in Nigeria, has also invested heavily in mask manufacturing capacity in its home market in Turkey and also in North Africa, including Egypt. In Turkey Hayat is the biggest mask manufacturer, with an annual capacity of 2.5billion or 7M per day. Egypt is a member of the Common Market For East and Southern Africa (COMESA) so we are most likely to see mask exports from Hayat's factories in Egypt to East Africa.

Other key global players in the face mask sector, such as 3M and Honeywell, also have operations in the region. 3M has operations in South Africa while Honeywell has a mask manufacturing plant in Tunisia. It will be interesting to see if other nonwoven players like Kimberly Clark, Proctor and Gamble and Ontex will delve into the mask manufacturing space in Africa or not. The face mask and personal protection equipment sectors will be interesting markets to watch in Africa for the foreseeable future, not as Africa prepares to become one market under the Africa Free Continental Trade Area (AfCFTA) but it is also an important development in terms of Africa's preparedness and near-sourcing strategy for a future pandemic.



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How to convert a **GRAPHIC PAPER MACHINE** into a **TISSUE MACHINE**

Fabrizio Tonello, A.Celli Paper Spa



In the last decade, the extraordinary expansion in the use of computer tools has led to an ever greater reduction in the use of graphic papers for written and illustrated communication, both mass and professional.

Today, in fact, the demand for these graphic and writing papers is mostly represented by market niches dedicated to special products such as, for example, papers dedicated to artistic activities, aesthetic packaging and some types of office papers. The general reaction of the paper industry, to avoid the closure of many plants, was the conversion of machinery to adapt them to the production of the types of paper most requested by the current market.

Types of conversions

The general reaction of the paper industry, to avoid the closure of many plants, was the conversion of machinery to adapt them to the production of types of paper more in demand by the current market. Most of these conversions involved the transition to packaging paper production, including the liner and fluting necessary for the production of corrugated cardboard, due to the fact that demand for these products has grown strongly thanks also to the e-commerce.

However, the packaging paper market is characterized by low margins and conversion investments are justified only in the case of large and high productivity machines. Furthermore, the transition from the production of graphic papers, typically composed of pure cellulose, to packaging papers produced from recycled waste paper requires heavy interventions on the stock preparation plants. It is in fact necessary to implement the part of the process that concerns the purification of recycled fibers, not present on the original plants fed by cellulose.

Some customers, standing out from the crowd, have instead taken the more creative approach of converting continuous machines created for graphic papers to configurations suitable for the production of tissue paper, namely crepe papers for hygienic and sanitary use. These papers have the advantage of normally having a higher added value than wrapping papers, a factor that increases margins and improves the return on investment.

The conversion process to Tissue paper production

From a technical point of view, a plant for graphic papers and one for the production of tissue paper have many parts in common:

- Both can be fed with the same raw material, and this means that the stock preparation lines do not need impacting modifications
- The same headbox can be used, if the productivity of the machine does not change significantly
- The Fourdrinier wire in the formation area is typically suitable for medium-heavy tissue weights such as towel papers or table or sanitary support papers
- The multi-cylinder dryer section can be used in part to complete the drying of the sheet after creping
- The machine winder (Pope Reel), with any minor adjustments to improve the control of the winding pressure, is normally suitable for winding crepe papers.

The machine section that must undergo a radical transformation is that relating to the presses. In the conversion operation, the conventional press section of the graphic paper machine is completely replaced by a new press configuration typical of the tissue machine whose main element is a large steam-heated drying cylinder, called Yankee Dryer, which groups into a single element 3 fundamental stages of the tissue paper sheet production process:

- The pressing, through the contact between the press cylinders and the Yankee Dryer
- A first drying phase, thanks to the steam heating of the Yankee cylinder body and the external active hood
- The creping through which the sheet is forced to detach from the Yankee cylinder by means of a special creping blade.

As we have said, at least one of the group of drying cylinders of the original machine will be kept downstream of the Yankee press section in order to complete the drying of the crepe sheet. The remaining groups of dryers will instead be eliminated, while the winder will be moved back into the space left free. In this way, the new machine will be shorter and more compact than the original machine, with plenty of space in the area downstream of the winder.

In some cases, a slitting unit can be inserted between the last drying cylinder group and the winder, thanks to which it will be possible to divide the sheet into smaller formats that will be wound in as many coils centered on a single pole managed by the rewinder. This solution will make it possible to directly package marketable finished rolls, avoiding the passage on an off-line rewinding machine.

It is important to underline that, even in composing the new Yankee Dryer section, many of the components of the original press can be recovered. Among these we can mention:

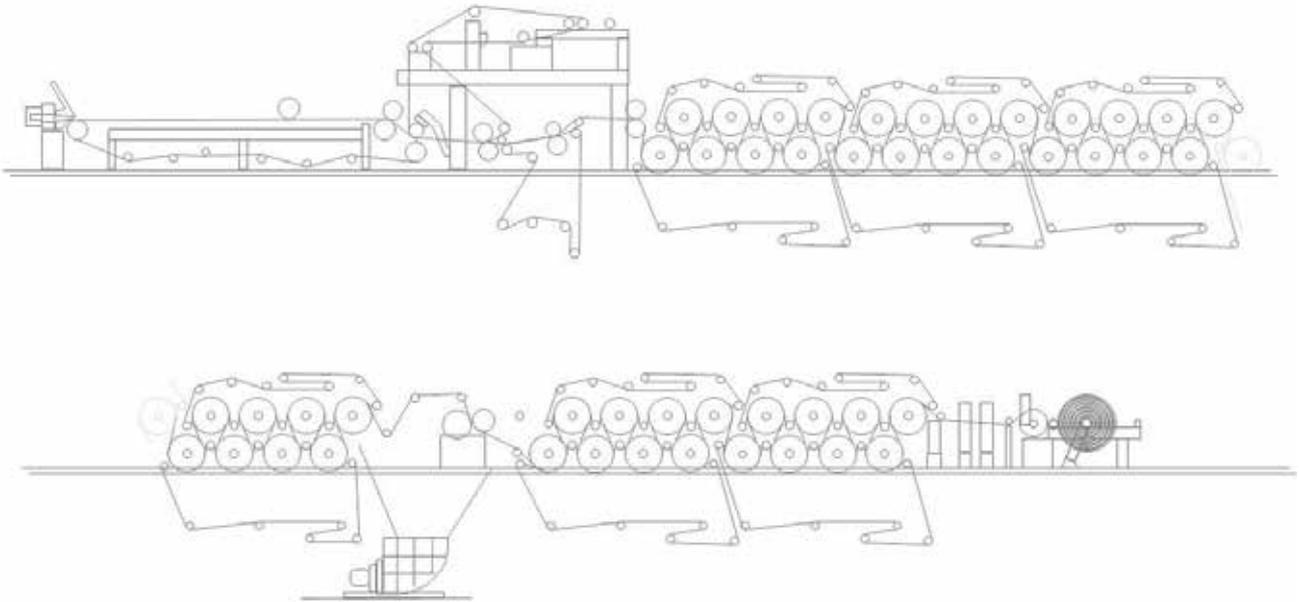
- the suction press rolls
- The felt cylinders
- The guiding devices and felt stretchers
- Felt cleaning and conditioning devices

All this will help to reduce the investment on the conventional part of the press section to the supporting structure alone, thus concentrating the majority of the investment in the Yankee Dryer section consisting of the Yankee Dryer itself, the high efficiency hood and the related steam and aerothermal systems subservient to the two elements.

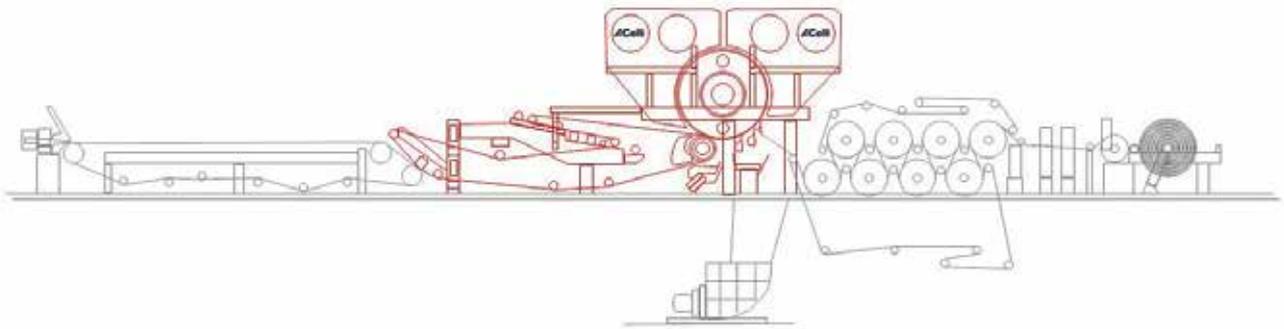
Finally, also as regards the management of process discontinuities (e.g. machine start-ups and sheet breaks), the existing equipment can be reused, in particular the under-the-machine pulpers and the broke treatment system.

The final result

In the image below, you can see the layout of a traditional graphic paper machine:



The final result, once the conversion process has been completed, will be a Tissue machine with the following layout:



For more information on how to convert your graphic paper plant into a Tissue plant, a process for which **A.Celli** has all the know-how and experience necessary to guarantee a first-rate result, request a free consultation with **A.Celli** experts.

SPARE THE TROUBLE, THIS IS

BUSINESS MADE EASY!

For many industrial players in the Disposable Hygiene domain, spare parts management spells challenge: deadlines, operating costs, warehousing, a thorough Supply Chain management and an efficient Customer Service are just a few of the variables in the equation to take into consideration.

Facing the challenge with GDM versatile solutions

To cope with these challenges, GDM offers **Spare Parts Management as a service, so as to let the customers focus on their core business**. Thanks to GDM portfolio of solutions, the client could benefit from several advantages:

- **“Achieving together” mindset:**
GDM is a partner that puts the customers at the center as far as all the different aspects of the business are concerned, including the After-Sales ones. They follow a simple tenet: Business Made Easy.
- **High-quality service:** both in terms of **support**, featured by prompt reaction in regular and exceptional situations and of **spare parts standards**, internally designed focusing on materials and treatments for premium machine performance.

- **Convenience:** thanks to specific customized solutions GDM can offer economically advantageous opportunities for spare parts provisioning.
- **User-friendly customer experience:** as they strive to keep customers' needs always in mind, they promote simple and intuitive solutions for spare parts management, such as their Webshop, aimed at simplifying the buying journey.
- **Moving with the times** by keeping the customers' needs at the center as well as quickly adapt and design solutions for specific markets & conjunctures.

GDM SPARE PARTS MANAGEMENT: A CLOSER LOOK

Stocking Agreements

A Stocking Agreement consists of the creation of a new bonding between GDM and the customer for outsourcing the spare parts stocking (such as belts, rollers, blades, ...): as the most critical spare parts are stocked at GDM's premise, the risk of delays in lead times is substantially minimized, reducing potential downtime.

At the beginning of the contract, in fact, GDM makes a list of the most critical parts in terms of malfunction risk and intensity of use. Afterwards, a consumption analysis of these parts is conducted in relation to the client's business, **identifying which spare parts should be kept in stock and in**





what quantities. This allows GDM's to buy spare parts in bulk and offer competitive prices.

In terms of economics, this has many benefits for customers, such as **overall purchase prize optimization**, stocking cost reduction, defined price list within the agreement terms and, most importantly, a unique supplier providing original and updated spare parts in case of technical improvements.

For the customer, it means minimizing fixed costs of both materials and warehouse space while ensuring the delivery of such spare parts within a set time.

In other words, the **dedicated warehouses project simplifies spare parts logistics through the physical optimization of stock inventory.**

The customer's parts kept in stock at GDM's warehouse are delivered within 48 hours[1]: as a result, the customer's on-site inventory stock value and fixed working capital investment is reduced up to -30% in one year.

Refurbishment

Refurbishment is a process that extends the machine lifetime and it is only applicable to GDM design spare parts. It is available for specific product categories as rotor mills, core forming moulds, rubber rollers, USB anvil rollers, shells, beaters and special cutting rollers.

This service is a complementary alternative to the purchase of new parts, allowing to fully recover the full functionality of spare parts, where possible.

Webshop

Coesia Webshop is the **GDM's online store of spare parts**, based on a Group common platform characterized by the **utmost cyber security.**

The service is **intuitive, always available from anywhere and features 100% integration with the client company's ERP.** Certificates and credentials are necessary to login and a Customer Service specialist is always at the client's disposal in case of need. The Webshop has 4 main benefits for the customer: **efficiency, autonomy, time saving and certainty.**

The client can search per part number, taking advantage of GDM's wide product selection. Also, the customer can easily upload existing item lists and, last but not least, always monitors shipment details and tracking.

Digital Documentation

Fully comprehensive technical documentation, allowing Customers to properly use our technology and to stay abreast of government regulations, safety standards and other issues legislated by local or international entities.

One of the latest digital solution introduced by GDM is the **Visual Component System:** thanks to this tool, the customer can easily and interactively navigate new machines' layout as well as browsing the 3D documentation for a significant time saving.

Virtual Visits

Virtual Visits are the latest addition to GDM's Customer Service portfolio of solutions. They have been developed to provide a different way of taking a tour of the production line, which has proved to be useful during 2020's coronavirus crisis when movement restrictions were first put into place.

Lockdown or not, **Virtual Visits provide an alternative opportunity for customers to directly engage with the manufacturing process**, giving the chance to take a "digital look" from anywhere in the world without any geographical barrier.

Want to deep-dive together about GDM solutions? Get in contact with GDM to shape the best options for responding to your specific need!

[1] 48 hours only applicable to Europe

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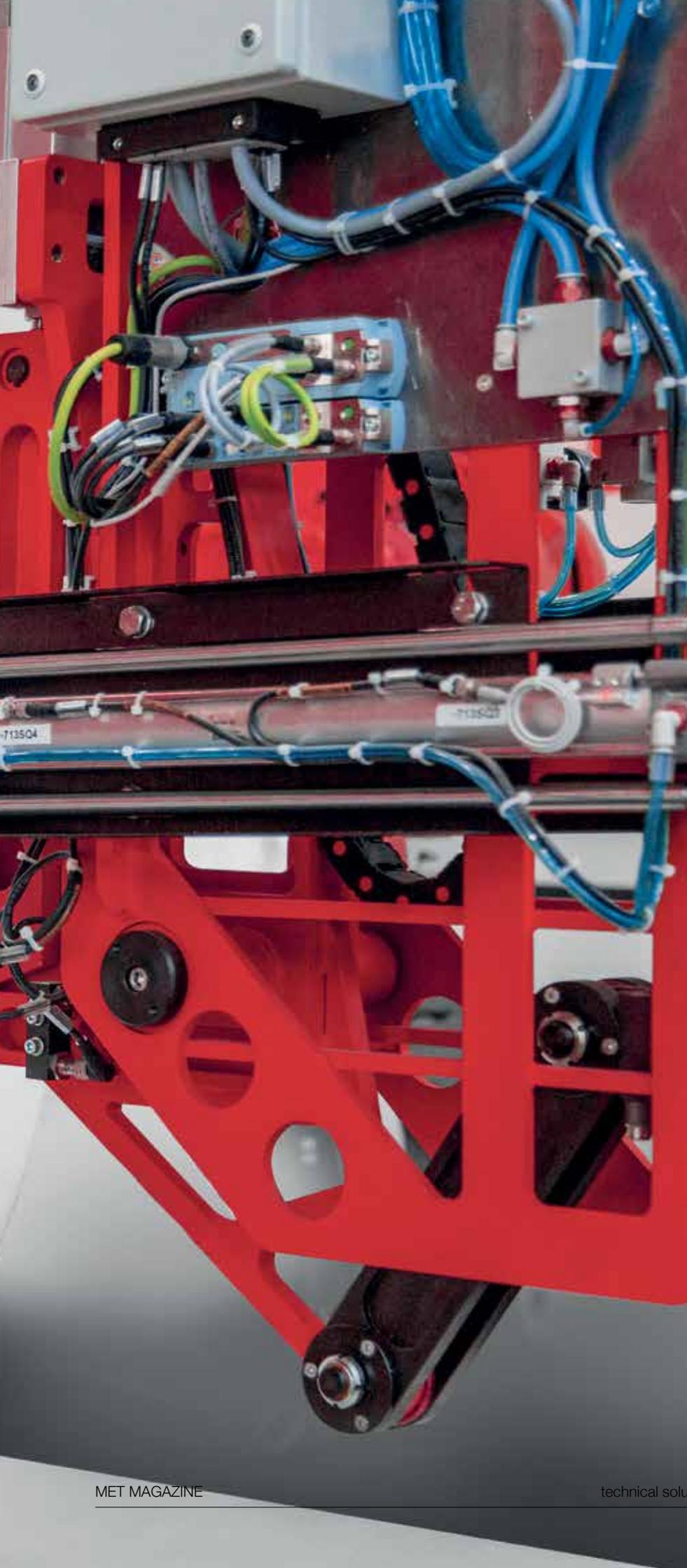
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HOW A.CELLI CAN REVOLUTIONIZE YOUR PACKAGING SYSTEM

Andrea Ruggiero, A.Celli

There are numerous companies in the tissue, paper and nonwoven reel packaging sector, but few of them have experience with upstream processes. For this reason, relying on a supplier who does not know in depth the product to be handled and packaged may not be convenient in the long term.



In this article we will explain why you should entrust the packaging system - and not only - to a single supplier like A.Celli.

Why turn to a single supplier for the packaging system and for the upstream and downstream processes

Choosing a single supplier that takes care of the entire paper and tissue production plant, the end-of-line of a nonwoven production line and automatic packaging and warehouse management systems can ensure you numerous advantages. Among these we can list:

- **Simplified installation and maintenance processes:** during the installation phase, the chosen supplier will be able to coordinate all activities avoiding overlaps and inefficiencies. Maintenance will also be simplified, as the supplier who designed the system will have the necessary know-how to keep its efficiency at optimal levels.
- **In-depth knowledge of the upstream production process:** as we mentioned earlier, a supplier who, in addition to supplying the packaging system, develops and manufactures machinery used for production, knows the process and the characteristics of the specific materials made that must subsequently be handled and packaged. Hence the development of ad hoc solutions in the packaging phase to handle the different materials appropriately without damaging them or compromising their quality in any way.
- **Correct sizing of the entire production line:** the packaging system and the upstream and downstream solutions are designed and developed keeping in mind the specific production needs of the customer, with the aim of obtaining a correct sizing of the various components. The entire system therefore works optimally, ensuring maximum efficiency and eliminating the occurrence of bottlenecks in production.
- **Single responsibility for the entire supply:** the customer will interface with a single company that will guarantee the performance of the entire plant, from the initial phase to the packaging and storage of the finished product.



A.Celli Paper handling system

- **Integrated and interconnected system:** by rely on a single supplier, it will be possible to ensure the interconnection and integration of hardware and software / IT between the various machines, without the risk of information loss during the production phase.
- **Less resources used - and associated costs - for supplier management:** in the presence of multiple suppliers, the company will have to allocate personnel to be assigned to their coordination, both technical and logistical. By adopting a single supplier it will therefore be possible to reduce both management and personnel costs and the risk associated with any supply errors.

Thanks to our automatic packaging system, which can be perfectly integrated with the other solutions offered by the company both for the upstream production line and for the downstream storage phase, you can turn to a single, qualified supplier for all your needs.

The R-WAY® Automatic Packaging System is able to perform the following operations:

- **Transfer of the reel from the production line to the packaging area,** thanks to conveyors or rollers.
- **Labeling of the outer surface and cores of each reel.** The automatic application of the labels allows a higher reliability of the tracking

and archiving process of data and reel characteristics, certifying their compliance with the customer's needs and the quality of the reel itself and the various stages of value creation.

- **Automatic preparation of reel bundles** with the support of anthropomorphic robots.
- **Packaging, weighing and labeling** of the bundles obtained.
- **Eventual automatic palletization and second packaging.**

A.Celli is also able to offer you solutions both for the handling of reels and pallets thanks to Automatic Guided Vehicles (AGV) and solutions for warehouse automation.

A.Celli R-WAY® Automatic Packaging System (and not only)

A.Celli Group, a player that has been operating in the tissue, paper and nonwoven industries for almost a century, offers a wide range of solutions that can guarantee you all the advantages listed above.

As for the packaging process, A.Celli has specifically developed the **R-WAY® Automatic Packaging System**, a solution capable of significantly increasing the efficiency of your packaging system by making processes faster, more reliable and error-proof, guaranteeing a composition of the bundles perfectly in line with the desired packaging recipe and keeping intact the quality of the reels produced up to their final destination.



A.Celli Integrated solutions - Packaging system



A.Celli Integrated solutions - Packaging system

Conclusions

It now appears clearer that a single supplier, such as A.Celli, is the best solution to offer you a perfectly integrated and efficient system that will help you revolutionize your packaging system and the production line in general. You can thus choose to contact us to manage all stages of production, maximizing global production efficiency and product quality with significant savings in time, energy and costs.

If you would like more information on how to improve or revolutionize the management of your packaging process by implementing an automatic system, contact us now to book a free, non-binding consultation with one of our experts!



Roll handling and packaging

NEW DISPOSABLE PRODUCTS WITH OMET TV503 LINE

Thanks to its modularity, OMET TV503 Line is able to process any type of non-woven material and to manufacture different products with high performances and in a reliable way. These products can have different dimensions, can be neutral/printed or with rubbed lotions. Usage of non-woven disposable products, such as dust-catching cloths for domestic cleaning, for hygiene, for barbers and beauty salons is certainly destined to increase in the short/mid-term. OMET is ready for this revolution with its TV503, which allows a perfect manufacturing of this material with exceptional production performance, thanks to a non-woven kit.



NON-WOVEN PRODUCTS

The usage of non-woven disposable products for the cleaning is growing steadily also because they guarantee hygiene, safety and time saving. OMET TV503 Line is not only able to process non-woven materials in an easy and regular way, but enables also inline printing (with digital inkjet technology as well) for products' customization and allows to rub lotions or scents during the transformation process directly on the material. OMET machines can manufacture several products, for example: cloths for hairdresser, sheets for barber, colour-catching cloths, dust-

catching cloths, napkins, handyman cloths, cloths for floors, disposable masks, sheets for medical use, mats and much more.

OMET lines have been developed to assist the producers in an easy and rapid change-over on the same machine, drastically decreasing machine stops. This allows the producers to be very flexible and to offer their customers a wide range of products. Thanks to the technical and R&D department, OMET is able to adapt the machine to any need.



FOLDED TABLECLOTH

OMET TV503 Line can produce folded tablecloths and “table sets” (tablecloth and napkin) on the same machine.

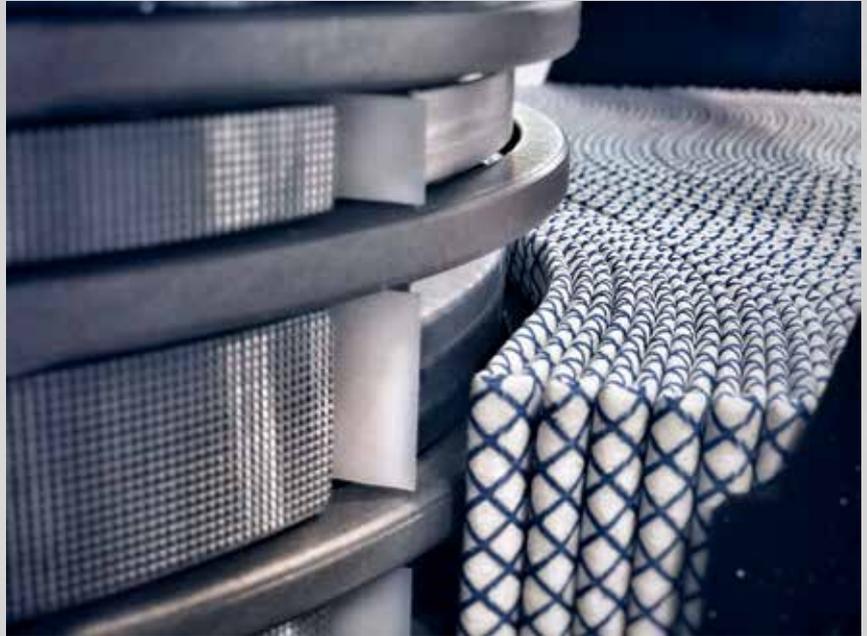
This line can produce tablecloths up to 1500x1300 mm (59” x 51”) and both napkins and tablecloths in various materials such as paper, non-woven or laminated paper and plastic. In addition, napkins and tablecloths can be printed in flexo and/or digital technology, and laminated in the same inline process.



DUST CATCHING CLOTHS and MICROFIBER CLOTHS

TV503 Line is the most versatile and flexible modular solution on the market. Thanks to its high performances and production capabilities, OMET TV503 Line can process different types of materials in addition to the classic fabrics, for example 500x400 mm dust catching cloths with a 0,4 mm material thickness. This product provides excellent cleaning results by catching dust and protecting surfaces.

Another example is the 500 x 400 mm floor cleaning cloth made of 1,6 mm thick microfiber. This product assures excellent cleaning results thanks to higher adsorptive properties than other materials, it can be also reused several times and maintains a perfect result.



BARBER CLOTHS

OMET TV503 Line, configured with an XL folding head, is also suitable for the production of disposable barber cloths up to 700 mm width. There is a blade cooling system on the line. The machine can reach a production up to 600 pieces per minute and an automatic transfer with heavy products belts completes the configuration.



CUSTOMIZED NAPKINS

OMET TV503 Line and MF Line can be equipped with Chameleon digital printing system for the customization of tissue and non-woven products. Chameleon is the perfect solution for short and medium runs of printed napkins, placemats or other folded products: they can be printed one different from the other in the same pack.



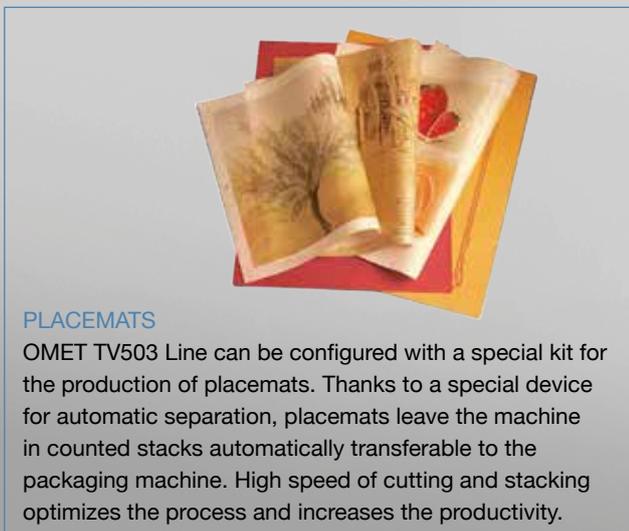
NAPKINS WITH CUTLERY POCKET

OMET TV503 Line also realizes 1/8 folded napkins with cutlery pocket. These napkins perform a double function of cutlery holder and napkin, offering at the same time a practical and innovative design. Available in different sizes and different materials.



COCKTAIL NAPKINS

Thanks to its flexible structure, OMET TV503 production line can also be configured to produce 100x100 mm size cocktail napkins or coasters. The interchangeability of the folding head enables an easy production switch between standard napkins, cocktail napkins and napkins of different sizes.



PLACEMATS

OMET TV503 Line can be configured with a special kit for the production of placemats. Thanks to a special device for automatic separation, placemats leave the machine in counted stacks automatically transferable to the packaging machine. High speed of cutting and stacking optimizes the process and increases the productivity.



DENTAL BIBS

Thanks to its versatility, OMET TV503 Line is able to produce disposable dental bibs. Characterized by high absorbency, these products are manufactured by coupling absorbent material and plastic material. They are available in different sizes according to production needs.

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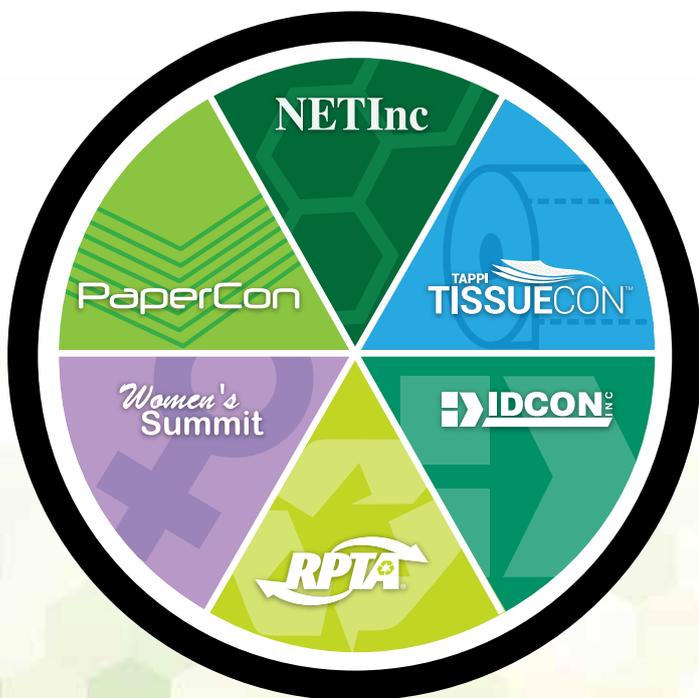
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