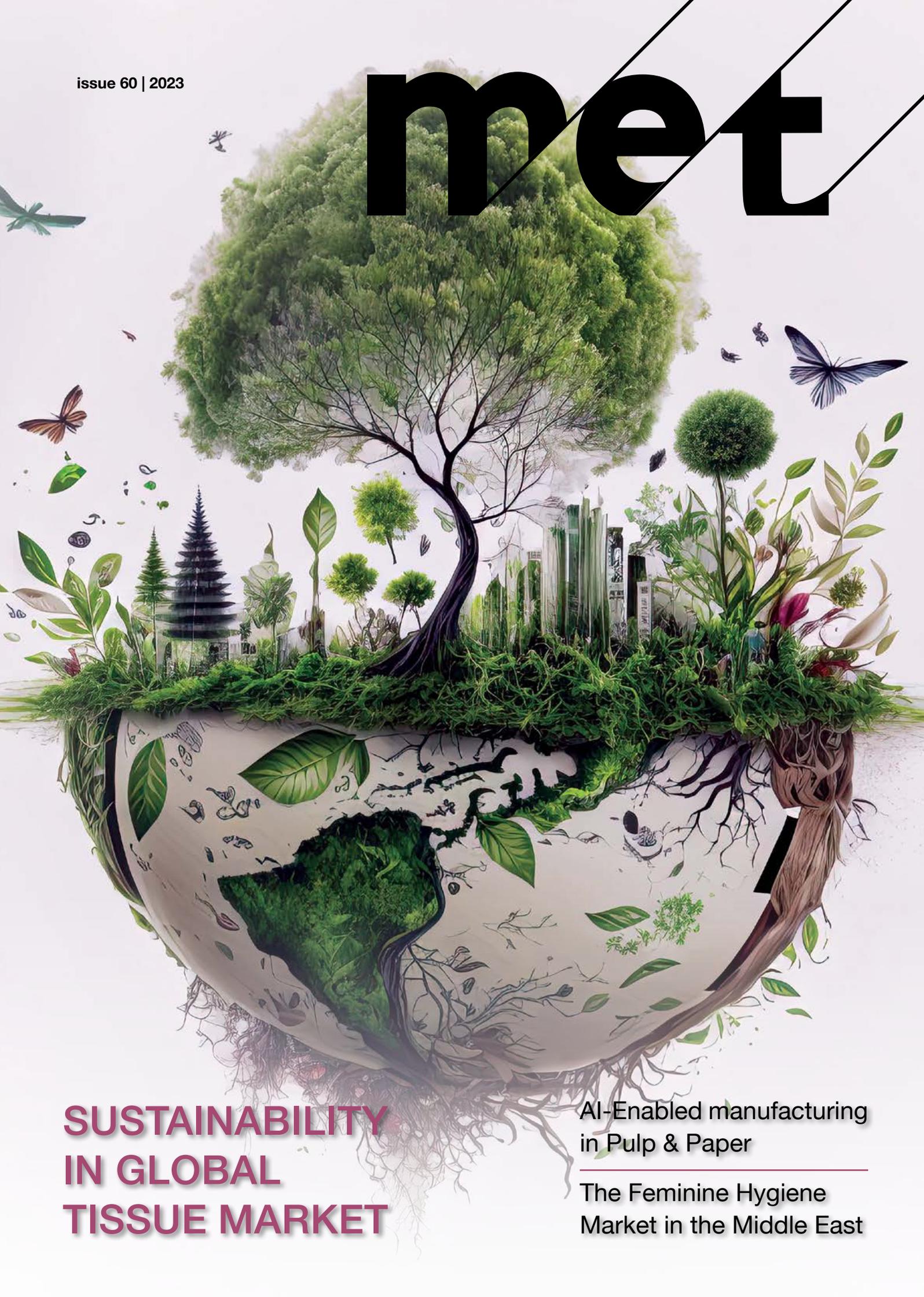


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## 02 Around the world

## 15 Success Story

15 Körber Business Area Tissue celebrates 100 lines sold of the “My” family Körber

## 19 In the Spotlight

19 Sustainability in Global Tissue Market

## 23 Industry Issues

23 AI-Enabled Autonomous Optimization for Continuous Manufacturing in Pulp & Paper Production Processes

## 28 Market Trends

28 Navigating the Blossoming Lady Hygiene Market: A Deep Dive into the Middle East

## 30 Technical Solutions

30 Problems in tissue rewinding: How to solve them with our A.Celli E-WIND® T100 Rewinder

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# TURKEY

## Lotus Teknik Tekstil invests in ANDRITZ Metris All-In-One digitalization platform for its new nonwovens line

ANDRITZ has received an order from Lotus Teknik Tekstil A.Ş., Türkiye, to install a Metris All-In-One digitalization platform for its new Wetlace™ CP nonwovens production line from ANDRITZ. The integration will be finalized in September 2023.

The Metris All-in-One platform developed by ANDRITZ provides full support for industrial plants throughout their entire life cycle. It combines a complete range of functionalities for professional production management, simulation and optimization using the latest artificial intelligence methods, plus cyber security, and condition monitoring with smart sensors in an integrated approach.

It will support Lotus Teknik Tekstil in further optimizing the operating efficiency of its ANDRITZ Wetlace CP line by ensuring a stable production process via data collection and process monitoring, reducing operational costs through optimized production traceability and energy monitoring, improving final product quality thanks to a stable process, and reducing production waste by optimizing raw material management.

Ceyhun Zincirkiran, co-owner and managing director of Lotus Teknik Tekstil A.Ş., says: “We have already gained positive experience with a Metris installation on our spunlace line from ANDRITZ, and so we are confident that the comprehensive Metris All-In-One solution will take the production performance of our new ANDRITZ Wetlace CP line to an even higher level.”

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

## Merkas Tekstil starts up A.Celli supplied winder and rewinder

The joined forces of A.Celli and Merkas Tekstil teams led to a quick and smooth start-up of the E-WIND® STREAM winder and RAPID rewinder designed for the ATB nonwoven production line located in Istanbul.

The scope of supply includes two E-WIND® solutions: STREAM Master Roll winder with a design speed of 300 mpm, and RAPID Slitter Rewinder with a design speed of 800 mpm. Both machines are also equipped with the ability to share data with the company's ERP.

Merkas Tekstil, who continues the long-standing collaboration with A.Celli, expressed absolute satisfaction with the performance achieved and the rapidity of the entire start-up phase. “We and A.Celli share a long history of successful projects” says Mr. Hakan Sisman, Board Member of Merkas Tekstil. “We are very proud of the work done by A.Celli and our team and impressed by the short time required to start-up the line. All this went beyond our best expectations and we are confident that A.Celli's solutions will continue to help us in the continuous improvement of our production of high-quality nonwoven fabrics.”

Merkas Tekstil Sanayi Ve Ticaret AS is a company founded in 2010 and part of Hassan Group. Merkas Tekstil is Turkey's first ADL nonwoven manufacturer and serve with its products the needs of various industries, such as medical, apparel and filter, with a focus on the hygiene sector.



Merkas Tekstil, Turkey, starts up A.Celli supplied winder and rewinder



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# EGYPT

## Hayat Egypt invests \$55million to open two new factories by 2024

Hayat Egypt is planning to invest \$55 million until the end of 2024 with the opening of two factories specializing in non-woven products and tissues. The announcement came during a press conference where Hayat celebrated the 10th anniversary of its operations in Egypt.

To date, Hayat Egypt has invested over \$550 million, inaugurated five production facilities, created more than 1,600 direct job opportunities and 900 indirect job opportunities, and introduced nine of its brands to the Egyptian consumer market, including Molfix, Bebem Natural, Molped, Papia, and Familia among others. Hayat Egypt's future investments are estimated at USD 210 million; the collective future investments of the company are expected to add 500 direct employment opportunities.

"We are proud of our 10-year track record of growth and leadership in the Egyptian market," said Mustafa Tuncay, Regional Vice President of Hayat Middle East and Africa. "Over the years, we relentlessly worked to transform Egypt into the exportation hub of Hayat in the region, leveraging its unparalleled potential. With a positive outlook, we are forward-focused on further expanding our local operations, investing more, and introducing new production lines, all while maintaining the highest levels of quality our customers always expect from us."

Hayat has five production facilities in Egypt: the hygiene plant for baby diapers and feminine care products is located in the 6th of October, while the remaining production lines are based at the Sokhna Plant producing non-woven and polyethylene products, tissues, face masks, flexible packaging, and sanitary napkins.

These assets position Hayat Egypt as the production hub for the North Africa region and the exportation hub of not only the Middle East and Africa region but to Europe, Far East, and the Americas including the USA with products worth \$150 million exported from Egypt to 58 countries worldwide and an additional \$200 million targeted for 2025.

The company also launched new products: the new generation of Molfix with Channel Technology, which provides three times faster absorption and remarkably enhanced softness; Molped Ultra Fresh & Comfort, a new pad with odor control features for a comfortable experience of up to eight hours, and Papia's first 4-layer tissues in Egypt.

# KUWAIT

## Gulf Paper Manufacturing upgrades tissue machine upgrade for high-quality products

Toscotec will supply a forming section rebuild of PM2 to Gulf Paper Manufacturing at their Mina Abdullah paper mill in Kuwait. PM2 machine produces tissue from 100% virgin fibres, and it is scheduled for rebuild at the end of 2023. This is a repeat order for Toscotec who in 2019 successfully delivered a major dryer section rebuild of Gulf Paper's packaging paper machine (PM1).

The project aims to improve PM2's paper formation and basis weight cross direction (CD) control through an approach flow system upgrade and the installation of a state-of-the-art TT Headbox. The new headbox will be designed to match the high-quality requirements for facial tissue in the Middle Eastern market. Ghaleb Alhadhrami, Gulf Paper Manufacturing Projects & Development Manager, says, "With Toscotec's rebuild of our packaging paper machine in 2019, we achieved a substantial production increase, reduced sheet breaks by over 80%, and improved paper quality especially in the moisture profile and hand feel. We are confident that Toscotec will deliver on this new upgrade of our tissue machine as successfully as they did two years ago. This new headbox and approach flow system are also fit for a future rebuild into crescent former configuration."

Established in 1978, Gulf Paper Manufacturing was the first company to start manufacturing paper in the Gulf region in 1981. Owned by two families of Kuwaiti entrepreneurs, it operates three production lines at its Mina Abdullah paper mill in Kuwait: PM1 produces packaging grades, mainly Fluting medium, Test liner and white top liner, using 100% recycled paper; PM2 manufactures tissue from 100% virgin pulp; the third is a tissue converting line. The company's current capacity is 70,000 tons, with 70% of its packaging grades being destined for export to GCC (Gulf Cooperation Council) countries and chiefly Saudi Arabia, and the domestic market accounting for approximately 30% of its business.



Toscotec and Gulf Paper Manufacturing (GPM) at Paper One Show in UAE (from right to left): Marco Dalle Piagge, Sales Director Tissue Toscotec; Fabio Bargiacchi, Sales Manager Toscotec; Tareeq Al Moasherji, CEO GPM; Ghaleb Alhadhrami, Projects & Development Manager GPM; Ahmed Kasim, Plant Manager GPM; Enrico Fazio, Sales Director P&B Toscotec.

# IRAQ

## Al Sindian, Iraq's first tissue mill

Al Sindian, the first tissue mill established in Iraq has recently started up its second hand Toscotec tissue machine, with a capacity of 50 tons per day and a running speed of 1,200 m/min.

# PORTUGAL

## Paper Prime tissue machine upgrade: production increase and reduced thermal energy

Toscotec will supply a technological upgrade of Paper Prime's PM1 at their Vila Velha de Rodão mill in Portugal. Planned for mid-2024, the project aims to achieve substantial energy savings and production increase.

Toscotec will rebuild the press section of the AHEAD 2.0 tissue line it supplied on a turnkey basis to Paper Prime in 2017. The machine will install Toscotec's latest generation shoe press TT NextPress to enhance drying efficiency in combination with the existing TT SYD Steel Yankee Dryer. The supply also includes a TT TurboDryer, which uses the heat recovered from the air system to strengthen the shoe press de-watering action and increase post-press dryness. The project aims to achieve two targets. Firstly, it will slash PM1's thermal energy consumptions by 25% and consequently significantly reduce the carbon emissions associated with its operation. Secondly, Toscotec will perform a machine speed increase from 2,000 to 2,100 m/min with associated capacity increase.

Riccardo Gennai, Sales Manager at Toscotec, says, "Decarbonization and Energy Efficiency upgrades are key for the European tissue market at a time where regulations are pushing for a profound industry transformation. Toscotec's technology delivers on efficiency and investment performance. We expect Paper Prime to start generating a positive return on this investment in less than two years."



Paper Prime's production site in Vila Velha de Rodão, Portugal.

# DENMARK

## ANDRITZ strengthens nonwovens business by acquiring Dan-Web

ANDRITZ has signed an agreement with Dan-Web Machinery A/S based in Galten, Denmark, to take over 100% of its shares. Dan-Web is a leading supplier of a wide range of technologies for the production of airlaid nonwovens. This acquisition further extends and strengthens ANDRITZ's product and service portfolio in the field of nonwovens.

Dan-Web engineers, designs and builds customized machines and turnkey plants to produce airlaid nonwovens for baby diapers, fem care, incontinence products, wipes, and other applications. With 50 employees at the facility in Galten, the company has been a successful provider of equipment and services to the airlaid industry for almost 50 years.

With this acquisition, ANDRITZ Nonwoven is adding competence in airlaid technology to its comprehensive product portfolio, which already includes air-through bonding, needlepunch, spunlace, spunbond, wetlaid/Wetlace™, as well as converting of nonwovens, also textile finishing, textile recycling, and natural fiber processing technologies. ANDRITZ has been cooperating with Dan-Web for the supply of airlaid systems when providing complete production lines for many years.

Dan-Web's product range also enables ANDRITZ to participate in the drylaid cellulose process for the production of environmentally friendly packaging and single-use products. Dan-Web is a leading supplier of hammer mills and forming head technologies for these pulp-based applications, which fits well with ANDRITZ's expertise in pulp technologies. Kurt Soerensen, President of Dan-Web, says: "I am delighted about joining forces with ANDRITZ. As part of the ANDRITZ GROUP, our product portfolio will be integrated into first-class process applications. Our common approach is to put a focus on further developing the range of environmentally friendly production technologies for the nonwovens industry."

Andreas Lukas, Head of ANDRITZ Nonwoven adds: "After more than two decades of successful collaboration, we now have decided to move closer together, which allows both of us to further develop certain processes much faster. I would like to personally thank Kurt Soerensen for his trust in ANDRITZ and look very much forward to having the Dan-Web team on board."

# SWEDEN

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## AFRY partners with Metsä Tissue to build a Future Mill in Mariestad

Metsä Tissue, part of Metsä Group, is investing in world-leading environmental and operational performance in tissue paper production by modernizing and expanding its paper mill in Mariestad. AFRY has been involved in the pre-project and is now a selected partner to deliver several services in the construction phase.

AFRY's assignment covers both expansion and adaptation of existing mills, which includes participation in Metsä Tissue's project organisation, including construction management, scheduling and coordination of engineering activities.

"AFRY is a widely known and experienced player in the industrial sector, which provides competence in many fields of technology – therefore it is great to have them supporting us in this unique project," says Esa Paavolainen, VP Projects Metsä Tissue.

AFRY will also provide engineering services within construction and architecture, land and environment, process and piping, and as well as being responsible for local engineering support for foreign suppliers. The latter includes, for example, guidelines and training in local regulations.

"We are proud that Metsä Tissue has chosen us as a partner in this interesting and ambitious future project. We have already started and look forward to what we can achieve together," says Fredrik Wirf, Construction Project Manager and Business Unit Manager in Process Industries, AFRY.

Construction work started in spring 2023 and the new modernised mill is planned to be operational by the end of 2025.

# FINLAND

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## Valmet acquires Körber's Business Area Tissue for EUR 380 million

On July 7, 2023, Valmet has entered into an agreement to acquire Körber Group's Business Area Tissue. The Business Area Tissue specializes in innovative converting and packaging technologies and services for the tissue industry.

The enterprise value of the acquisition is approximately EUR 380 million on a cash and debt free basis subject to ordinary post-closing adjustments. The acquisition is estimated to be completed at the earliest on November 2, 2023, subject to competition authority approvals. The transaction consideration will be paid in cash upon the completion. Valmet will finance the acquisition with debt. The financing package for the acquisition consists of two facilities underwritten and committed by Danske Bank A/S and Nordea Bank Abp, a EUR 250 million term loan facility maturing in January 2028 and a EUR 150 million term loan facility maturing in two years from the closing of the acquisition.

In 2022, Körber's Business Area Tissue's net sales amounted to EUR 305 million and its adjusted EBITDA margin was approximately 12%. The company has a strong and growing services business, which accounted for 36% of total net sales in 2022. The business employs around 1,170 employees in Italy, Brazil, the U.S., China and Japan.

Valmet estimates that the acquisition will bring sales, service and cost synergies worth of EUR 8 million by the end of 2026. The acquired business will be integrated into Valmet's Paper business line as a separate business unit. In Valmet's reporting, the process technology part of the business will be consolidated to Paper business line and the services part to the Services business line.

At the end of Q1/2023, Valmet had a strong liquidity with cash and cash equivalents amounting to EUR 429 million and net interest-bearing liabilities totalling EUR 345 million. Valmet's net debt to EBITDA ratio was 0.49 and gearing 15%.

Pasi Laine, President and CEO of Valmet says: "Valmet benefits from the growing demand for bio-based products globally. With this acquisition, Valmet takes again a new step forward and strengthens both its Process Technologies and Services segments. The combination of Valmet's current tissue making technologies, services and automation offering and the acquired tissue converting offering and competences is a good strategic fit complementing each other and forms a strong basis to create new business opportunities and serve our customers even better. We are happy and proud to warmly welcome all the new colleagues from Körber's Business Area Tissue to become part of Valmet."

"Today our Business Area Tissue is a global market player. Now, joining Valmet, this is an excellent opportunity to form a unique tissue player and set the course for the future. Our Business Area Tissue will be able to further expand its potential, offering and reach with Valmet as its committed new owner," says Stephan Seifert, CEO, Körber Group.

"Valmet has profound market expertise, a strong customer focus, and extensive experience in integrating additional competencies. We are very pleased that in Valmet we have found an ideal future partner for our employees, customers, and suppliers to leverage the full potential of our tissue business," says Oswaldo Cruz, CEO, Körber's Business Area Tissue.

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# FRANCE

## ANDRITZ introduces new spunlace pilot line for natural and recycled fibers

ANDRITZ has installed a new spunlace pilot line at its center of competence in Montbonnot, France. It allows customers and partners to conduct trials for producing nonwovens from recycled and/or natural fibers such as hemp, flax, and cotton.

The new pilot line features optimized web forming and entanglement for smooth processing of sensitive and irregular fibers. The innovative card set-up is designed to protect and maintain the quality of the fibers while achieving outstanding productivity rates.

Another special feature of this pilot line is the integrated ANDRITZ Metris digitalization system. It allows the operators to collect and analyze all useful data about the line's capacity and performance. This is a perfect tool for optimizing costs, saving time and predicting maintenance.

With the new line, the ANDRITZ Nonwoven team now operates two spunlace pilot lines at the Montbonnot technical center. The first line has optimized processes, for instance Wetlace™, for processing various synthetic and man-made fibers. ANDRITZ process experts ensure that advanced technology and know-how are available under one roof at Montbonnot.



ANDRITZ pilot line for natural recycled fiber, Montbonnot, France. Photo: "ANDRITZ".

# ITALY

## Albis starts ANDRITZ supplied extra-wide carding machine

ANDRITZ has successfully started up the new carding machine and opening/blending line it delivered to Albis in Roasio, Vercelli, Italy.

This investment represents an important step for Albis in meeting new demands and producing innovative nonwoven products for hygiene and medical applications.

With its large working width of 5.10 meters, the machine allows for the production of nonwoven fabrics tailored to specific customer requirements while maintaining excellent properties and consistent quality. One example is Albis Curacell®, a multilayer composite nonwoven fabric in a weight range between 35 and 70 gsm that is produced with a fully water-free patented process and is able to absorb liquid flows of over seven times its own weight. The production line also includes an advanced upstream opening and blending system from ANDRITZ.

Albis CEO Gianni Boscolo says: "ANDRITZ has both the expertise and innovativeness we are looking for in a partner to realize our vision. The reliability of their machinery was another important factor in our decision to partner with them. Our new installation will help us meet our clients' demands and enable us to continue creating nonwoven products that set new standards in the hygiene and medical sectors."

Albis, a privately owned group founded in Italy in 1995 by Gianni Boscolo, has been a major player in the nonwoven market for over three decades. Through continuous research and development, the company offers innovative, high-quality nonwoven solutions across various sectors, including hygiene, medical, personal care, textiles, filtration, and agriculture.



From left to right: Mr. Gianni Boscolo, CEO of Albis, and Mr. Fabien Ravier, Managing Director of ANDRITZ Asselin-Thibau. Photo: "ANDRITZ".

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# KOREA

## Mirae Paper Toscotec starts up a Steel Yankee Dryer

Mirae Paper started up a TT SYD Steel Yankee Dryer supplied by Toscotec to replace an existing cast iron Yankee on PM2 at their Jeonju mill in South Korea. This is Mirae Paper's second TT SYD installation following another Yankee replacement by Toscotec on PM3 in 2013.

The latest generation of TT SYD installed on Mirae Paper's PM2 benefits from an ideal ratio of the height, width, and distance between the Yankee's internal ribs and the optimization of its shell thickness. This design guarantees the highest possible thermal energy transfer efficiency at the drying heart of the tissue machine.

Following the global success of its Steel Yankees, in 2016 Toscotec set up its TT SYD Technology Center in Massa (Italy), an integrated facility fully dedicated to their manufacturing with a short and easy route to a seaport to accelerate shipping anywhere in the world.

Yeong Rok Lee, Mirae Paper's Production Manager, says, "We are very happy with the outcome of this second Yankee replacement by Toscotec. This new Yankee on PM2 has been performing very efficiently for over 2 months now. Just like our first TT SYD on PM3 has done for more than 10 years now, with great reliability and substantial energy savings."

Established in 2000, Mirae Paper operates one paper mill in Jeonju, South Korea. The company manufactures up to 65,000 tpy of high quality tissue, including toilet tissue, handkerchiefs, and towels, using both virgin and recycled fibres. It distributes its products mainly to the Korean market.



Toscotec's Steel Yankee Dryer at TT SYD Technology Center in Massa, Italy.

# THAILAND

## Pehart Group chooses A.Celli for the rebuilding of a tissue machine

Hiang Seng Fibre Container Co., Ltd., part of Pehart Group, chose A.Celli for the complex and highly technological rebuilding intervention on their PM5 located in Bangkok, Thailand.

The tissue machine rebuilding intervention includes the supply of a reinforced shell, 15" forged Yankee Dryer and a last generation Shoe Press specifically designed by A.Celli for tissue paper production.

The Shoe Press, characterized by a relatively small footprint and a high operational flexibility, has been specially designed to increase energy efficiency and productivity and enhance paper properties. The press is also extremely user-friendly in terms of both operation and maintenance.

Mr. Gabriel Stanciu, General Manager of Pehart Group, said: "Our strategy focuses on the energy efficiency of production equipment and sustainable development, as we have decided to increase our efforts to optimize production machinery. We are aware of the quality of A.Celli's solutions and services from a previous project involving the supply of a turnkey tissue line in 2015. The new solutions that A.Celli will provide for this rebuilding will surely meet our expectations and will serve our purpose to develop production capacity and deliver high-quality products."

Considering our experience, we recommend A.Celli as a reliable and highly competent supplier".

With an almost 186-year tradition, Pehart Group is one of the largest paper producers in Southeast Europe. The company is present with its household and industrial products in 18 Central, Eastern, and Southern European countries.



A.Celli to rebuild Hiang Seng Fibre Container PM5 in Bangkok, Thailand.

## Solenis Completes Acquisition of Diversey for \$4.6 Billion

Solenis has completed its previously announced acquisition of Diversey Holdings, Ltd., effective July 5, in an all-cash transaction valued at an enterprise value of approximately \$4.6 billion. Diversey is a leading provider of hygiene, infection prevention and cleaning products and technology.

With the acquisition, Solenis has grown to an enterprise operating in over 130 countries with 71 manufacturing facilities and more than 15,000 employees. Headquartered in Wilmington, Delaware, Solenis was acquired by Platinum Equity in 2021. Bain Capital, the majority shareholder of Diversey, will hold a minority stake in Solenis as a result of this transaction.

“This merger makes Solenis a more diversified company with significantly increased scale, broader global reach and the ability to offer a ‘one-stop shop’ suite of solutions that meet customer demand and address water management, cleaning and hygiene issues on a global basis,” said John Panichella, CEO, Solenis. “Together, we have a foundation from which we can continue to leverage our strong customer partnerships, leading-edge innovation and value-added services to propel Solenis’ aggressive growth trajectory. With continued support from Platinum Equity, we are confident that we will maximize the promising opportunities ahead.”

Panichella stated that the addition of the Diversey line of cleaning and hygiene products and technologies helps create cross-selling opportunities that will make Solenis an even more valuable partner for its customers. “We now have greatly enhanced capabilities to help our customers tackle critical sustainability challenges, reduce their environmental impact and help create a cleaner, safer world,” he said.

## Sofidel invests \$185 million to expand its Circleville Ohio plant

Sofidel tissue paper group, is further strengthening its production capacity with a \$185 million investment in its integrated plant in Circleville, Ohio, to meet the growing demand in the U.S.,

The project involves the construction of a new building that will house the new Valmet DCT 200 paper mill machine, which will start operation in Q3 2025 with a production capacity of 70,000 metric tons per year.

The Circleville plant, which is already home to two Valmet Advantage NTT paper mill machines, will reach a production capacity of over 200,000 metric tons per year (+50%) and become Sofidel’s most important production site globally.

The Ohio plant was Sofidel’s first greenfield investment in the United States. To date, it is Sofidel’s most modern and sustainable plant. Located on a 280-acre (110-hectare) site,

the plant sits in an area rich in water, gas, and electricity, and is close to a strategic logistics hub for distribution operators, with intermodal transport systems and major urban centers within a few hundred miles.

## Shawano Specialty Papers boosts production capacity

Shawano Specialty Papers, a division of Little Rapids Corporation, started up a TT SYD Steel Yankee Dryer supplied by Toscotec at their paper mill in Shawano, Wisconsin, USA. It replaced an existing cast iron dryer on PM3. The new TT SYD has significantly increased PM3’s production capacity and is ensuring higher operation safety. Compared with the replaced cast iron Yankee, it is delivering substantial energy savings, which reduce the overall operating costs of the tissue machine.

Michael Bogenschutz, Vice President and General Manager of Shawano Specialty Papers, says “Toscotec provided excellent technical support throughout the entire project. Start-up of the new Yankee went smoothly, and the dryer is performing well. We are experiencing lower energy consumption and are seeing the potential for increased production efficiency.”

Little Rapids Corporation is a family-owned business. The company’s core product lines serve the medical and beauty market segments, flexographic printing for a variety of packaging markets, and tissue, MG paper, and wet crepe paper for the specialty paper market.



From left to right: Michael Drage, President of Toscotec North America, and Michael Bogenschutz, Vice President and General Manager of Shawano Specialty Papers in front of PM3 at their Shawano facility in Wisconsin, USA.

# USA

## INDA partners with EDANA to expand the reach of the industry's first quality and audit programme for hygiene product suppliers

The Quality and Audit Programme – a voluntary initiative for the hygiene product industry – is now available in the United States.

INDA and EDANA, the leading trade associations representing nonwovens and related industries, joined forces to implement and support the industry's first Quality and Audit Programme (QAP) in the United States. This joint effort will increase the reach of, and support for, the programme in the North American absorbent hygiene products and wet wipes industries.

Much like the harmonization of test methods years ago, this joint programme has the potential to reduce complexity for both suppliers and converters of AHP and wipes. This programme grew from the inefficiency of facing multiple audits from converter supplier audit programmes, often assessing similar requirements, but according to differing standards. The programme went through a rigorous testing and piloting phase before being rolled out in the summer of 2022. Initially only available in Europe, the programme is expanding its reach to cover Asia and the Americas.

"INDA is pleased to partner with EDANA to promote this programme for the benefit and efficiency of the industry," said Tony Fragnito, INDA President. "With this partnership, we believe QAP will become the global quality standard in the hygiene industry, thus ensuring that consumer products across the industry are of the highest quality."

"Answering the needs of many of our members and based on the first results since its implementation in Europe just over a year ago, we are strongly convinced that QAP is a meaningful step forward for the industry. While it will still require a kind of paradigm shift, we are sure that more and more industry players from across the world will adopt the programme," said Murat Dogru, EDANA's General Manager. "I look forward to partnering with INDA to bring QAP to the North American market."

# MEXICO

## Papel San Francisco to install seventh tissue production line

Valmet will supply an Advantage DCT 100TS tissue production line to Papel San Francisco in Mexico. The new TM 10 machine will be installed at the company's mill in Mexicali and the start-up is planned for the second quarter 2025.

Papel San Francisco currently has five Valmet lines in operation, started up between 2006 and 2020. TM 9 is currently under delivery and will start up in 2024. The upcoming delivery of TM 10 in 2025 will mark a milestone for Valmet as it features the

# CANADA

## Kimberly-Clark pulls out Kleenex from the Canadian consumer market

Kimberly-Clark has discontinued its consumer facial tissue business in Canada as of August 2023.

"We have been operating in a highly constrained supply environment, and despite our best efforts we have been faced with some unique complexities on the Kleenex business," said Todd Fisher, Kimberly-Clark's Canadian vice-president and general manager, in an emailed statement.

"This decision is one that will allow us to shift our resources to better focus on other brands in Canada and meet the needs of our consumers with continued innovation and value," he said.

While Kleenex tissues will no longer be on the shelves across Canada, the company said it will continue to sell Kleenex professional facial and consumer hand towel products in Canada in addition to the Cottonelle, Viva, U by Kotex, Poise, Depend, Huggies, Pull-Ups and Goodnites brands also remain unaffected.



100<sup>th</sup> ViscoNip press that Valmet has delivered to customers globally over the years. The press has been recognized among tissue producers for its unique flexibility, uniformity, energy saving capability and high-quality tissue paper.

The new tissue machine will have a width of 2.8 m and a design speed of 2,200 m/min. It will add 30,000 tons to Papel San Francisco's current yearly production of 210,000 tons of toilet tissue, kitchen towels and napkins.



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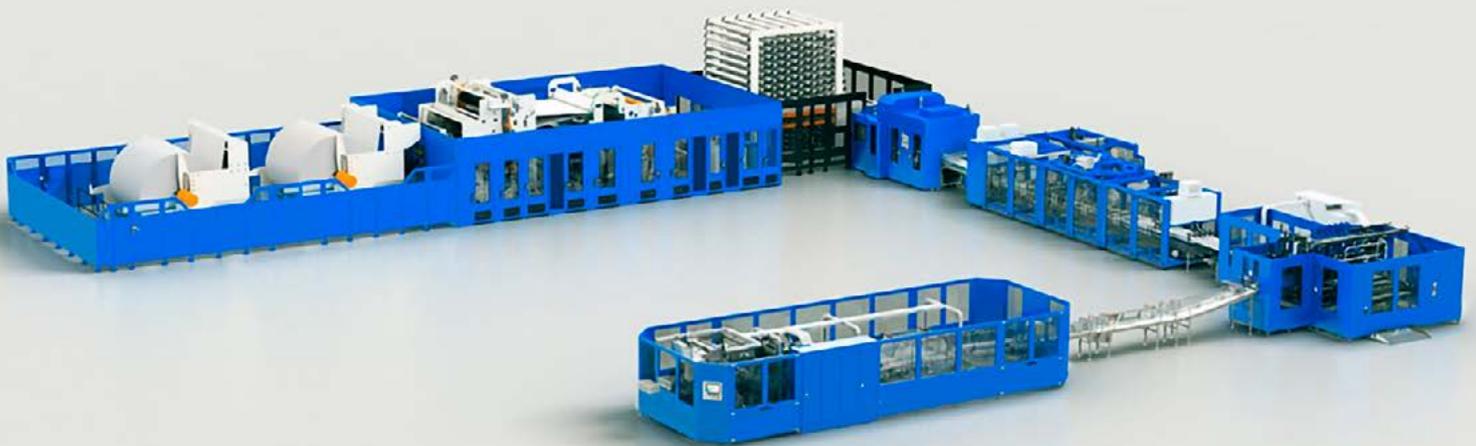
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# KÖRBER BUSINESS AREA TISSUE CELEBRATES 100 LINES SOLD OF THE “MY” FAMILY

Körber Business Area Tissue celebrates an important milestone: 100 lines of the “My” family have been sold so far worldwide since the first MyLine was introduced in 2015. With this range of pre-configured solutions for converting roll and fold, Körber Business Area Tissue offers its continuously evolving technology, for a reduced lead-time, bundling it with its technical support services for an optimized OEE over time. A successful outcome, guaranteed by high quality of the finished product and excellent value for money for clients in converting roll. In parallel, Körber Business Area has innovated the roll segment with its Perini MyGo and has launched a new line for the fold segment with its MTC MyWize.

**The success of the “My” series: reliability, versatility, performance**

Clients worldwide have expressed their satisfaction with the four lines of the “My” series. Indeed, the multiple benefits that the MySincro, MyLine, MyTime and MyFold present, translate in terms of efficiency, value for money and ease of integration with existing processes, for high performance, productivity and reduced Total Cost of Ownership (TCO). With Körber Business Area Tissue’s technology, customers have been able to meet a latent market demand, increasing sales by as much as 15 percent. Furthermore, thanks to the excellent transfer system for roll and the folding system for fold, cycle capacity has been boosted, resulting in a significant improvement in the quality of the finished product, attaining, in some cases, an OEE of 82 percent. The combination of Körber Business Area Tissue’s know-how and 24/7 technical support is the differentiating factor, which enhances the benefits of choosing a My.

**Product innovation and portfolio expansion**

Given the success of its already existing products, Körber Business Area Tissue has introduced two new dedicated solutions for the roll and fold segments, in order to constantly meet the needs of customers in an ever-changing market. Specifically, **Perini MyGo** is an upgrade for the roll segment of the MyLine which, thanks to its new plug-and-play configuration, optimizes machine installation operations, in favour of a significant reduction of start-up times. Furthermore, the lines of the My family are constantly updated according to the most cutting-edge technologies. Concretely, the converting lines for rolls can now be equipped with recent self-adjusting solutions, with the aim of reducing dependence on the operator, and increasing their safety. In this regard, worth mentioning are the **Sam perf active system**, for constant control of the perforation quality while the machine is running, and the **Auto Web Starter system**, for the automatic passage of the web from the unwinder to the rewinder, which eliminates the need for the operator to enter the line.

“The MyPerini and MyMTC series make our advanced technology readily available, in line with safety and efficiency standards for any production volume required. The positive feedback received in the field by tissue converters has encouraged the continuous expansion of the My family to meet the needs of an ever-changing market, as well as the implementation of the latest technologies for self-adjusting solutions aimed at reducing operator dependencies.”

says Stefano Palazzesi, Product Manager at Körber Business Area Tissue.



On the converting fold side, Körber Business Area Tissue has recently launched the new **MTC MyWize**, a line designed for medium production volumes in the Multifold category. Thanks to the established vacuum technology, the innovative solution will enable the creation of Away from Home multifold 3- or 4-panel (Z or W) value products. A brand-new solution deriving from the combination of Körber Business Area Tissue’s expertise, for the benefit of customers’ businesses.

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# Sustainability in Global Tissue Market

Jorge Araya  
Consultant,  
Euromonitor International

**Euromonitor’s Sustainability in the Global Consumer Tissue Market report delves into how consumer lifestyles and purchase decisions are increasingly leaning towards more sustainable practices and how companies are meeting this increasing demand.**



Sustainable claims in global consumer tissue are still underdeveloped but gaining traction



Environmental activism a platform for brand innovation and consumer engagement



The retail segment in developing regions will be the principal drivers of long-term growth



Alternative fibres and eco-friendly packaging as key strategies in consumer tissue to address sustainability

Given both consumer and government pressures to reduce environmental impact along with the increasing cost of production, some companies have already embraced circular business models and eco-friendly manufacturing practices and products. Sustainable supply chain, reduction in non-recyclable plastic packaging, and alternative fibres are among the strategies adopted by the global industry to respond to changing demands.

### Business with purpose trend intensifies following the pandemic

The rising importance of green trends reflects increasing consumer concerns over the environment and consumer willingness to have a positive impact through their actions. The pandemic has also highlighted the importance of social sustainability, with a strong and sustained increase in the number of businesses linking the term to supporting local communities.

### “Environmentally friendly”. What does it really mean?

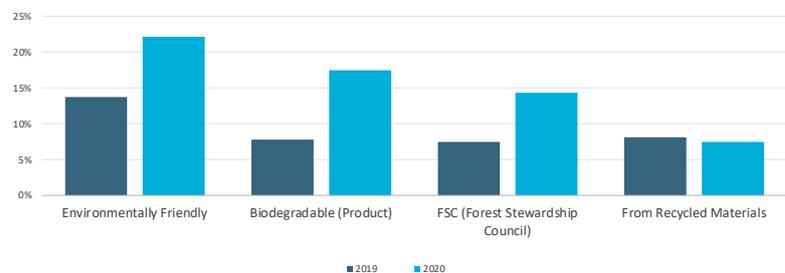
“Environmentally friendly” was the sustainable claim most used by tissue companies in 2020, with a marked increase compared to 2019. But, what does “environmentally friendly” really mean for consumers? What should consumers understand when they see a product with this claim?

This claim encompasses one or more sustainable attributes that companies usually mention in a general, at times vague, way; an action or actions linked

to the reduction of their impact on the environment, such as biodegradable, from recycled materials, or Forest Stewardship Council certification (FSC). There can be some lack of transparency here, which puts consumer confidence at risk, along with the potential for misleading marketing campaigns (also called “greenwashing”).

In contrast, an increasing number of consumers are willing to pay more if the products feature a tangible attribute. Vague and generic claims are losing space in the purchase decisions linked to sustainability. Given this, it is important to understand that consumers are increasingly aware of the environmental impact of their daily activities, but industry growth cannot

% SKUs in the Global E-Commerce Retail Tissue Market, 2019/2020  
Share of SKUs with the label



Source: Euromonitor Product Claims and Positioning  
© Euromonitor International

### Understanding pricing challenges

Despite growing interest in promoting a sustainable recovery from the pandemic, stronger regulatory incentives, and growing consumer demand, “high cost of implementation and limited budget” is the main reason why tissue companies have not invested in sustainability, according to tissue industry professionals who responded to Euromonitor’s Voice of the Industry Sustainability Survey 2021.

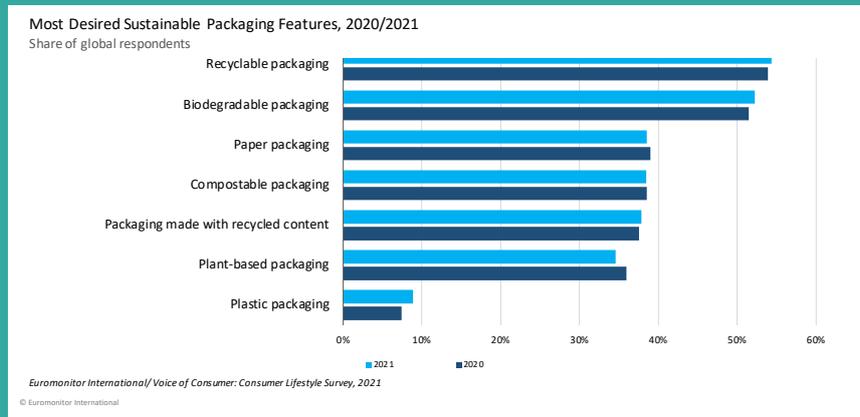
depend only on consumer willingness to pay more for certain products or services; it needs to implement innovation and marketing strategies that are transparent and resonate well, while also providing tangible benefits linked to the sustainability agenda.

### Focus on sustainable packaging

Increasingly, consumers have a clear idea about what they see as sustainable packaging. According to Euromonitor International’s Voice of the Consumer:

Lifestyles Survey, recyclable and biodegradable packaging top the rank of packaging features perceived as sustainable.

Despite plastic packaging ranking last (viewed as least sustainable packaging by most consumers) most tissue packaging is still dominated by flexible plastic, due to its light weight and barrier properties. Despite increasing green activism and legislative pressures to adopt more sustainable packaging options, cost and operational limitations remain obstacles. However, as technology continues to evolve, the industry is increasingly eyeing more sustainable plastic options, including recyclable and recycled plastic, and even biodegradable packaging.



“ Industry growth cannot depend only on consumer willingness to pay more [...] it needs to implement innovation and marketing strategies that are transparent and resonate well. ”

### Innovation in alternative fibres

Wood pulp is one of the most critical commercial products worldwide due to its demand in the tissue paper industry. North America and Latin America together account for more than half of global production, reaching 97 million tonnes in 2020.

Undoubtedly, virgin wood pulp will continue to be important in the tissue market, and pulp and fibres made with wood from responsibly-managed forests are crucial to meet consumer demand and government stipulations.

However, fast-renewable species are emerging as a sustainable wood pulp alternative:

- Eucalyptus is highly efficient in retaining carbon dioxide. These trees do not need high irrigation or pesticides, and can grow in relatively poor and rocky soil, avoiding deforestation and erosion.
- Bamboo remains an alternative fibre of choice for many eco-friendly brands. It is a crop with a low water requirement to generate biomass and can be harvested every year.

- Wheat straw is being explored in Europe as an alternative fibre for large-scale tissue production, as this pulp is easier to source and cost efficient from a sustainability perspective.

*This article was originally published on [www.euromonitor.com](https://www.euromonitor.com) <https://www.euromonitor.com/article/sustainability-in-global-tissue-key-findings>*

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## AI-ENABLED AUTONOMOUS OPTIMIZATION FOR CONTINUOUS MANUFACTURING IN PULP & PAPER PRODUCTION PROCESSES

**Imagine a world where the creation of pulp and paper products we use every single day is so finely tuned that waste is minimal, efficiency is maximum, and quality is consistently high. Picture an industry that can not only predict but also control the manufacturing process, thanks to the intervention of artificial intelligence (AI).**

Indeed, this scenario is not a distant utopia but a rapidly emerging reality in the global pulp and paper, board, and tissue and towel industries. Emerging from the intersection of traditional techniques and advanced technology, a revolution is transforming the industry at its core.

AI technologies are catalyzing changes across the production processes of pulp, paper, and other products like board, tissue and towel. These changes aren't merely optimizing manufacturing; they're also significantly enhancing vital attributes like wet strength, a key determinant of these products' functionality and durability.

This shift signifies more than an operational modification; it represents a fundamental transformation of the industry. As we navigate this exciting era, the future of the pulp and paper industry is clearly being shaped by the synergy of traditional expertise and AI advancements. In essence, we're witnessing a dynamic convergence of conventional manufacturing with state-of-the-art AI technology, signaling an exciting, innovative shift in the industry.

According to the World Bank, the pulp and paper industry, generating products

like newsprint, packaging, sanitary paper, and tissue, forms an integral part of the global economy, contributing approximately 1.1% to the world's GDP. The backbone of its production processes is continuous manufacturing, designed for production to bolster efficiency and minimize waste.

While this approach has yielded consistent progress, the advent of transformative AI technology further amplifies its benefits. The onset of AI-enabled autonomous optimization is revolutionizing this industry, redefining manufacturers' production approach, especially in optimizing pulp and paper production and bolstering the crucial aspect of wet strength.

A detailed report by PricewaterhouseCoopers (PwC) suggests that AI could add up to \$15.7 trillion to the global economy by 2030, making it an enormous commercial

opportunity in today's rapidly evolving economy.

Moreover, considering its broad range of applications, industries, including pulp, paper and tissue manufacturing, stand to reap significant benefits from this AI revolution.

### Traditional Approaches and Challenges in Board Production

In the pulp and paper industry, and at the heart of board production, lies the concept of wet strength, an essential characteristic that governs the quality and durability of the final product. Wet strength defines the ability of these products to maintain strength properties when wet - a critical feature for many consumer items like tissue and paper towels.

Board with a wet tensile strength greater than 15% of its dry tensile is conventionally considered wet strength. Achieving and maintaining this threshold is a significant challenge in board production, as it requires precise control over numerous process variables and raw material properties.

Despite advances in chemical treatment and manual control, traditional approaches often struggle to ensure consistent wet strength. The inherent complexity of the manufacturing process, combined with variations in raw materials and environmental conditions, often leads to inconsistent outcomes and inefficiencies.

Research by the Technical Association of the Pulp & Paper Industry (TAPPI) suggests that addressing these wet strength issues could result in a potential 10-20% increase in production efficiency. However, this goal has not been achieved using traditional methods, creating an urgent need for more innovative, efficient, and consistent approaches to optimize wet strength.

Case History: AI-Driven Chemical Optimization Ensures Dry End Quality Target Adherence for Tissue and Towel Manufacturer

**Customer Challenge:** A North American recycled tissue and towel manufacturer grappled with variances in Cross Direction (CD) and Machine Direction (MD) wet tensile quality tests. These inconsistencies compelled the operating team to run chemical feed rates at a higher level to guarantee the production of on-specification towels, resulting in increased chemical usage and costs.

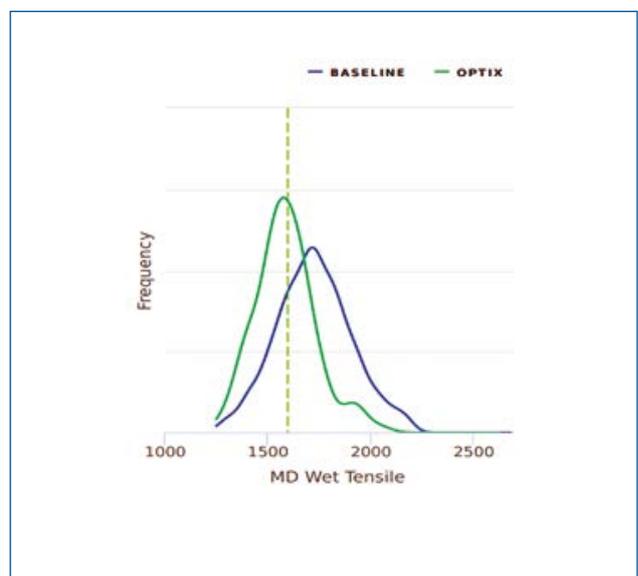
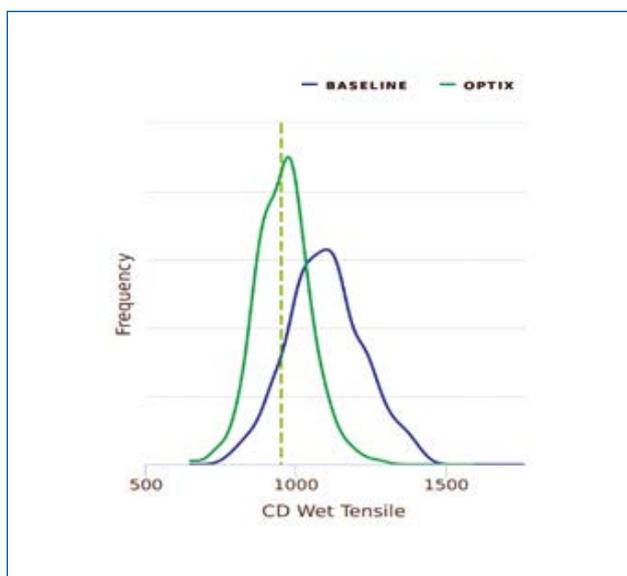
**Recommended Solution:** Solenis proposed the implementation of their AI-driven platform, OPTIX™ Applied Intelligence. Developed in collaboration with ProcessMiner, OPTIX is a sophisticated predictive analytics platform with autonomous control capabilities bolstered by machine learning. This innovative solution generates a real-time virtual measure of wet tensile quality, enabling precise adjustments in the production process.

**Results Achieved:** Implementing OPTIX™ Applied Intelligence led to substantial enhancements in the recycled tissue and towel manufacturer's production process. The autonomous control offered by OPTIX reduced variations in the base sheet's wet tensile quality and facilitated more accurate target quality adherence.

With the increased predictability and control enabled by OPTIX, mill management could fine-tune the CD/MD wet tensile ratios, bringing wet strength targets closer to the lower control limits. As a result, response times for wet strength adjustments were significantly decreased, leading to more efficient, smaller incremental dosage changes in real-time.

The AI-optimized process control resulted in considerable chemical savings, reducing the annual wet-strength resin consumption by 825,000 lbs. This reduction also led to a significant decrease in the mill's carbon footprint, eliminating 620 tons of CO2 emissions per year thanks to fewer required tanker truck deliveries.

This compelling case study showcases the transformative power of AI in optimizing continuous manufacturing processes, not only enhancing operational efficiency but also contributing to the industry's sustainability efforts.



## The Advent of AI in Pulp and Paper Manufacturing

Over the past decade, AI has made significant inroads into various industrial sectors, and pulp and paper manufacturing is no exception. McKinsey estimates that AI could create between \$3.5 trillion and \$5.8 trillion in value annually across various business functions in 19 different industries.

In the pulp and paper industry, AI techniques such as machine learning, deep learning, and predictive analytics are rapidly gaining ground. These technologies offer promising solutions to long-standing challenges, enhancing predictability and control in the manufacturing process and thereby driving efficiency and product quality improvements.

A report by Accenture highlighted that companies implementing AI in their manufacturing processes reported a 10% reduction in downtime due to maintenance and a 20% reduction in waste from manufacturing processes. This underlines the potential of AI in revolutionizing manufacturing across industries, including pulp and paper.



## AI-Enabled Autonomous Optimization in Continuous Manufacturing

AI-enabled autonomous optimization in continuous manufacturing is the next frontier in manufacturing technology. This approach uses AI algorithms to analyze real-time and historical process data from production, identify inefficiencies, and autonomously adjust critical control elements to optimize efficiency.

The benefits of AI-enabled autonomous optimization are far-reaching, with potential improvements ranging from a 10-20% increase in production, a 10% reduction in energy usage, and significant improvements in product quality.

For instance, AI can potentially reduce the consistency of wet strength by 25%, which is a significant improvement considering the historical challenges in managing this property.

According to a report by McKinsey, this shift toward an autonomous, AI-driven manufacturing process stands to revolutionize the industry and could lead to annual savings of billions of dollars.

## ProcessMiner and Solenis: Shaping the Future of Pulp & Paper Production Processes

Solenis and ProcessMiner stand out as two leading-edge companies applying and operationalizing AI-driven

transformation in the pulp and paper manufacturing industry. Leveraging the power of AI, these pioneers have ingeniously developed a suite of ground-breaking solutions. Their cutting-edge technologies go beyond just enhancing predictability; they bring a newfound level of precision and control to manufacturing processes that were previously lacking.

7X24 their AI algorithms tirelessly monitor the production processes settings and deviations to detect issues or conditions impacting quality, prescribe corrective action to critical set points and close the loop with the ability to execute corrective action autonomously.

In doing so, they turn the concept of smart manufacturing into an executable reality, demonstrating the true potential of AI.

### **OPTIX™ Applied Intelligence: A Revolution in Pulp and Paper Production Processes**

Meet OPTIX™, a revolutionary adaptive and self-learning platform shaking up the pulp and paper manufacturing industry. Developed by Solenis and ProcessMiner, it harnesses the power of AI and machine learning, transforming raw data into actionable insights, all in real-time.

No more tedious data interpretation! Instead, OPTIX hands over real-time calculated values for critical quality parameters, enabling mill operators to optimize their process like never before. This is the future of manufacturing—smarter, more efficient, and sustainable, all thanks to OPTIX.

- **Optimized Basis Weight:** Achieve optimal basis weight consistently with OPTIX! Its smart analytics and machine learning capabilities make precise real-time adjustments, ensuring top-notch product strength and durability every time.
- **Improved Quality Consistency:** Bid goodbye to quality inconsistencies with OPTIX. Its continuous learning from data assures top-tier quality production, cementing your reliability in the market.
- **Optimized Chemistry:** OPTIX turns the complex task of chemical optimization into a breeze. Its AI-driven analytics fine-tune chemical compositions, slashing waste and boosting efficiency.
- **Increased Production Volume:** Ramp up your production volume with OPTIX. Its advanced analytics and real-time decision-making supercharge the manufacturing process, identifying and rectifying inefficiencies on the fly.

- **Reduced Variability:** Say no to variability with OPTIX. Its predictive models anticipate and correct potential issues before they can impact your process, ensuring a smoother manufacturing journey.
- **Increased Speed:** Speed up your decision-making and process adjustments with AI-enabled OPTIX. Its real-time capabilities slash analysis time, putting you in the fast lane of manufacturing.

### **Future Directions: AI in the Pulp and Paper Manufacturing Industry**

As we look to the horizon of pulp and paper manufacturing, it becomes clear that the influence of technology can be transformative. As a result, the future looks promising for AI's integration into this industry, with many exciting possibilities. As technology continues to evolve and mature, we anticipate an array of even more sophisticated solutions that will optimize production, minimize waste, and elevate the quality of the final products.

Beyond just boosting efficiency and quality, AI is set to play a crucial role in shaping the industry's sustainability initiatives. With its ability to refine production processes, significantly reduce waste, and cut down on energy consumption, AI holds immense promise for creating a more ecologically responsible and sustainable pulp and paper industry.

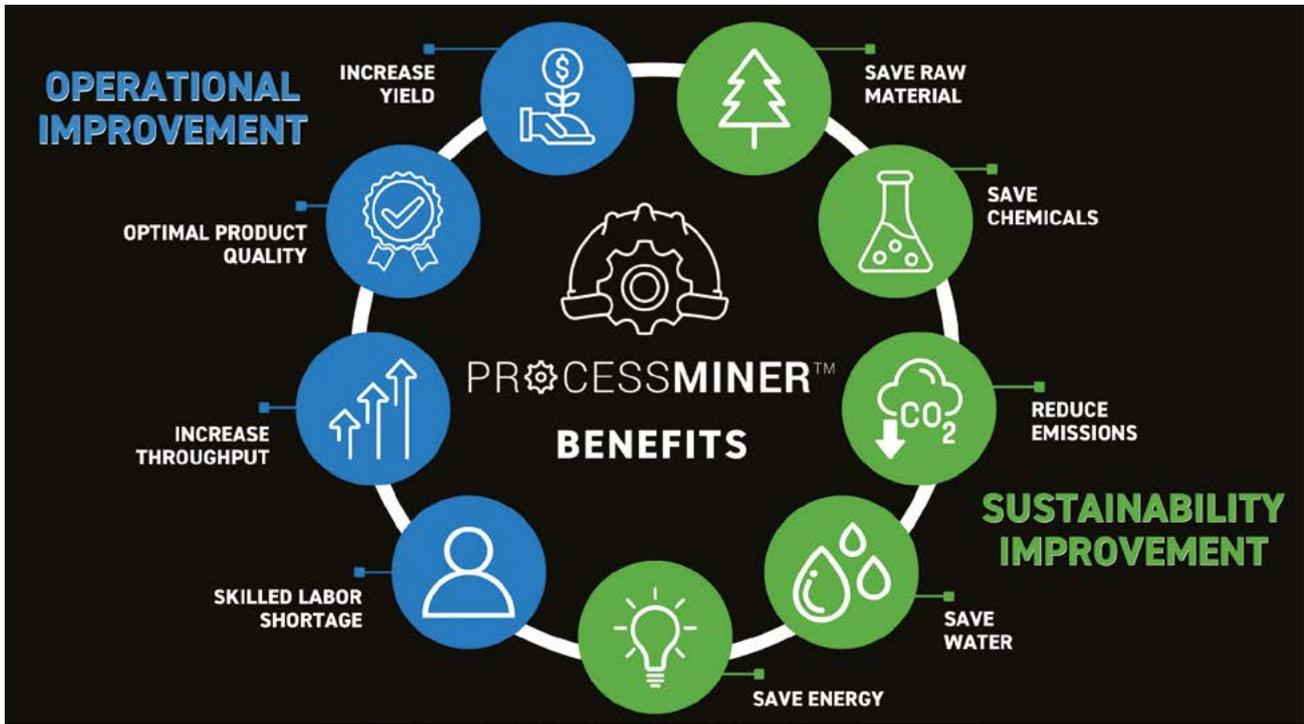
Additionally, AI advancements are expected to open new avenues for workforce development and training in the industry. For example, AI-powered predictive maintenance could enable a shift from reactive to proactive management, enhancing equipment longevity and reducing unplanned downtimes. Furthermore, by identifying patterns and trends, AI can provide actionable insights to train operators, helping them better understand the production process's intricacies and make informed decisions.

Moreover, the advent of AI in this industry also opens doors for new research and development opportunities. With its ability to analyze vast amounts of data and identify hidden correlations, AI can assist in developing novel materials and production methods that can revolutionize the industry.

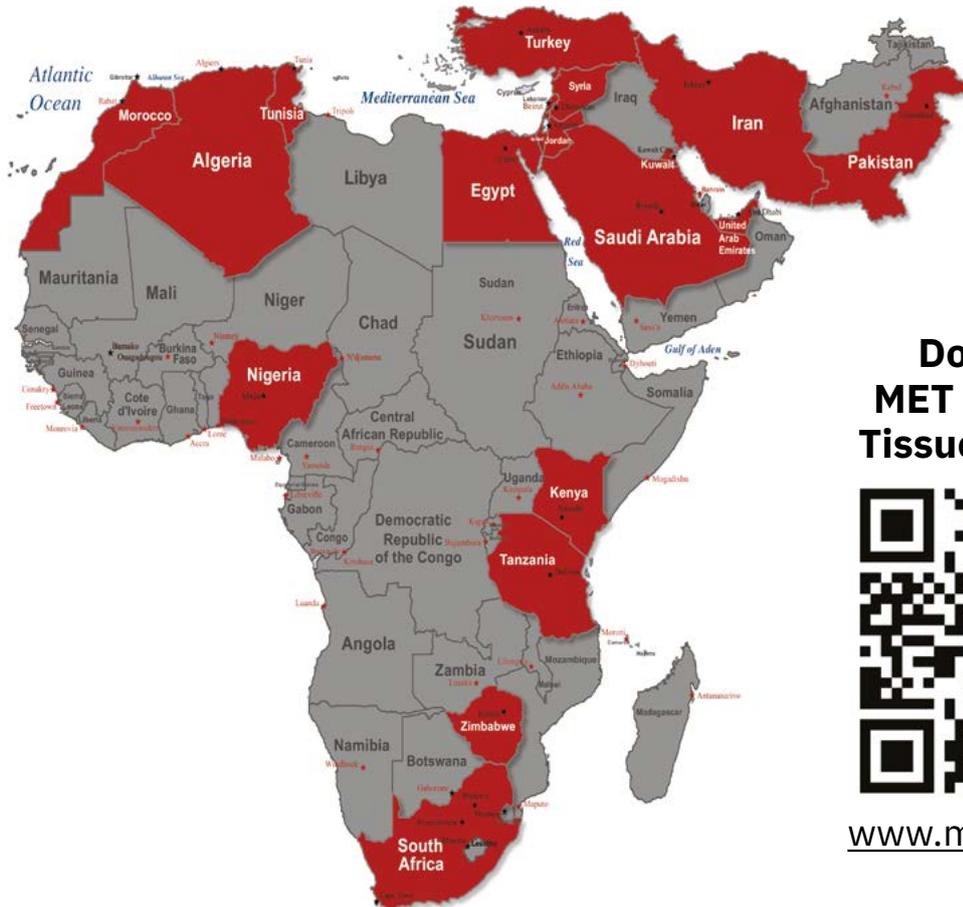
### **Harnessing AI's Power: The Future of Continuous Manufacturing in the Pulp and Paper Industry**

In conclusion, AI-enabled autonomous optimization presents an innovative solution for managing continuous pulp and paper manufacturing. AI's predictive and control capabilities can help overcome traditional manufacturing challenges, leading to significantly improved efficiency and product quality.

As pioneers in this space, companies like ProcessMiner and Solenis are demonstrating the considerable benefits AI can bring to the industry. With the continuous evolution of AI, the pulp and paper industry is well-positioned to embrace a future of increased efficiency, profitability, and sustainability.



## GET TO KNOW THE MAJOR TISSUE PRODUCERS IN THE MIDDLE EAST AND AFRICA



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# *Navigating the Blossoming Lady Hygiene Market:*

# A DEEP DIVE INTO THE MIDDLE EAST

The Middle Eastern lady hygiene market has witnessed remarkable expansion in recent years, and it is predicted to keep growing with regards to both volume and value. On the one hand this leads to a broader range of available products for consumers. On the other, it means increasing competition among market players.

In this scenario, investigating the factors behind such growth, as well as understanding market drivers and shifts, is crucial to cater responsively to consumers' needs and stand out of the crowd. Let's explore the trends, challenges, and opportunities within this thriving market.



### Market Landscape: Unstoppable Rise

With a value of 4.78 billion Euros in 2022, femcare products market in the Middle East accounts for almost 30% of the disposable hygiene market total value. After the stop caused by the pandemics, the lady hygiene market has been expanding steadily, with a compound annual growth rate of 18% over the past two years. And its rise seems to be unstoppable, with an increase of 13% (CAGR) expected for the next five years.<sup>1</sup>

A similar growth is also foreseen in terms of volume (almost 9 billion units in 2022), with a 4% CAGR by 2027. As to the format, despite the wide range of products available on the market, sanitary napkins are still leading across Middle Eastern countries and are even expected to further grow by a 2% CAGR.<sup>1</sup>

### Cultural Sensitivity: From Urbanization to Breaking Stigmas

The reasons behind such a relevant growth are diverse. First, Middle East is experiencing a significant increase in population<sup>2</sup> as well as in female individuals. This means a greater number of consumers in need for sanitary products.

Second, changing lifestyles are playing a decisive role in the increased awareness of menstrual management. A combination of urbanization and women entering the workforce fosters breaking stigmas and promotes modern menstrual hygiene practices.<sup>3</sup>

Product availability in retail is also a determining factor driving demand for feminine hygiene products in the Middle East. Although e-commerce is the fastest growing distribution channel – with a compound annual growth rate of 22% – supermarkets and discounters still account for the main retail channel.<sup>1</sup>

### Global trends: The Green Challenge

While menstrual awareness and easiness-to-purchase are primary drivers, global trends such as sustainability are also shaping Middle Eastern consumers' requests.

The environmental impact of menstrual products and the non-biodegradability of feminine hygiene products is a serious concern. This new sensitivity on the topic has led to an increased demand for organic, eco-friendly products, made of innovative materials.<sup>4</sup>

As well as product sustainability, comfort is also a strong force driving purchases in the Middle East.

Consumers are willing to pay more for better performance, discretion and excellence – sanitary napkins unit price being expected to increase by 15% CAGR in the next five years.<sup>1</sup> Nevertheless, price and convenience remain crucial factors in purchasing decisions, leading to fierce competition among Middle Eastern brands.

### Future Outlook: Attuned to Innovation

In conclusion, the lady hygiene market in the Middle East is evolving rapidly, driven by a new cultural sensitivity and a growing emphasis on premiumization and sustainability. As the market continues to expand and diversify, it presents significant opportunities for both established and emerging brands to cater to the unique needs of Middle Eastern consumers.

Sustainability will be the challenge to tackle. The lady hygiene market in the Middle East is poised for further innovation, with potential advancements in product design and materials. Hemp, fiber from jute or banana, cellulose-based hydrogel, thanks to their sustainability profile, represent valid raw materials' alternatives still to be explored.

A bright future also expects companies in terms of technological innovation: more sustainable supply-chains are to come. Less waste, less glue and increased operational efficiency will help keeping production cost-effective, while delivering performing, more convenient, and eco-friendly products. By staying attuned to industry trends and fostering a culture of innovation, companies can tap into the vast possibilities presented by this thriving market.

<sup>1</sup> Euromonitor 2023.

<sup>2</sup> Population Pyramid. <https://www.populationpyramid.net/population-projections/africa+asia+europe+latin-america-and-the-caribbean+northern-america+oceania/>

<sup>3</sup> Middle East Feminine Hygiene Market (2021-2027). 6Wresearch. <https://www.6wresearch.com/industry-report/middle-east-feminine-hygiene-market-2021-2027>

<sup>4</sup> Megan E. Harrison, Nichole Tyson, (2022, July 4). *Menstruation: Environmental impact and need for global health equity*. Gynecology & Obstetrics. <https://obgyn.onlinelibrary.wiley.com/doi/full/10.1002/ijgo.14311#>

Are you ready to seize the growth opportunities of lady hygiene market?

Contact GDM S.p.A. at [info.it@gdm-spa.it](mailto:info.it@gdm-spa.it) to discuss how to drive your business to success.

The A.Celli logo is displayed in a bold, blue, sans-serif font. The 'A' and 'C' are connected, and the 'i' has a red dot. The background of the entire page is a photograph of a large industrial factory setting with various machinery and overhead cranes.

**Irene D'Olivo,**  
Sales Application Officer,  
A.Celli Paper

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Our Tissue rewinders have been designed to avoid the most common problems concerning the winding of Tissue, achieving the following results:

High process speed, efficiency and productivity

The achievement of these objectives is possible thanks to particular design choices adopted starting from the unwinders. The belt, for example, is characterized by a **design developed to preserve the properties of Tissue paper**, with a more uniform pressure area of the belt thanks to the arms used. The latter work pneumatically, thus ensuring the absorption of the differential pressure of the belts against the reel caused by the irregularity of the reel itself.

A.Celli Tissue rewinders also use special **load cells**, mounted on the driven rolls/lead in rolls of the unwinders, capable of measuring the tension value of the Tissue sheet and

Elimination of the risk of excessive bouncing during winding, even at high speeds

sending the relative signal to the control system of the rewriter, thus allowing a **constant adjustment of the tension during unwinding**.

A strong point of the E-WIND® T100 is the **design of the shaft locks**: compared to the conventional solution, these are **not subjected to axial locking**, thus ensuring **greater stability of the reel during winding** and, consequently, an **optimal final result**.

During the winding of the finished reel, it is also essential to **control the rider roll and the shaft locks**. That is why the first is equipped with two load cells for nip impression control during winding, while the latter are equipped

Excellent rewinding quality and maintenance of the characteristic Tissue paper bulk, i.e. the volume given by the creping and thickness of the paper itself

with as many load cells for controlling the lightening of the reel.

Among the available options we find the possibility of installing a **calander** with two operating modes: **Nip control** and **Gap control**.

Nip control makes the paper softer and smoother by adjusting the linear load between the two rolls. This property is very important especially for face skin care products such as, for example, handkerchiefs.

The Gap control, on the other hand, makes the thickness of the paper uniform, allowing the two rolls to work with a very narrow Nip opening.

### Cutting-edge safety and technology

To ensure a **healthy and safe working environment**, the E-WIND® T100 provides a **dust removal system** with wet scrubber capable of reducing up to 5 mg/m<sup>3</sup> (or 3 mg/m<sup>3</sup> with total compartmentalization of the rewriter). There is also a system for the removal of trims, which can be conveyed to the pulper or to a dedicated baling press.

Furthermore, like all the machinery designed and built by A.Celli, the T100 and T100S Tissue rewinders are also equipped with a **complete and efficient protection system** capable of guaranteeing the maximum safety of the personnel and of the structures themselves.

Finally, it is possible to implement **advanced Industry 4.0 digital solutions**, such as automation, IoT and Artificial Intelligence applications capable of guaranteeing complete integration of machinery for the management and analysis of the exchanged data.

### A.Celli E-WIND® product range: the best technologies for winding, unwinding and rewinding

The Tissue T100 and T100S Rewinders are just two of the high performance machines in the E-WIND® range. To learn more about the portfolio of solutions offered, **download our free eBook** "A.Celli E-WIND®: the best winders and rewinders for nonwoven, tissue and paper". You will surely find the right solution for you.



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