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met

The magazine for the hygiene industry

**WILL THE PANDEMIC
AFFECT FLUFF PULP?**

**HOW TO MEASURE
OUT AFH CHEATERS**

COVID-19:
How the industry is adapting

Business Improvement:
**A look at new nonwovens
and tissue solutions**



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- **ENERGY CONSUMPTION OPTIMIZATION**



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TURKEY

Lila Group invests 450 million TL to become the largest paper production center under a single roof in Turkey

Lila Group will open a new production facility on an area of 30,000 square meters in the same campus with the existing production facility in Çorlu and increase its production area to 170,000 square meters. Valmet will supply Advantage DCT 200 TS machine previously delivered for Lila Group's new investment TM4.

With the new facility, which is planned to become operational by the second half of 2021, Lila Group's tissue paper production will increase by 33% compared to its current capacity. With the start of production at its new facility, Lila Group will become the largest production center under single roof in Turkey, and at the same time, one of the largest producers in Europe.

Lila Group Chairman of the Board Mr. Orhan Ögücü said: "As Lila Group, we are realizing our own investment spurt. Last October, we announced the news of our investment at one of our production facilities, and this facility has become operational in the first quarter of 2020 with the intense efforts of our engineers, and has made a great contribution in meeting the hygienic needs that have increased significantly both in our country and in the world during the pandemic that is affecting the whole world. We had more than met all the demands both domestic and international."

Mr. Ögücü continued: "And now, I am very happy to share with you our last investment, which is similar to our previous investment in terms of capacity and employment. Exporting to 80 countries all around the world, we, as the Lila Family, continue to add new achievements with each passing day."

Lila Group's new production facility is equipped with the latest technology, as in the previous facility, and currently has the most environmentally friendly machines with the lowest carbon footprint. The equipment called 'ReTurne', which was used in Lila's previous facility for the first time in a tissue paper production machine in Turkey, will be used in its new facility, as well. The total electricity consumed per ton will be reduced by means of a turbine utilizing the water to be used in production, and the energy to be used to dry the product will also be reduced via 'Visco Nip'. On the other hand, thanks to the 'ReDry' system, the process that is normally carried out by consuming fresh steam in conventional systems will be carried out using the exhaust air coming out of the process, thereby saving the steam consumed per ton of paper. The heat energy coming out of the process will be reused in the process, no heat will be released to the atmosphere as waste heat. Systems such as waste-heat recovery and rainwater recovery systems will also be in operation at the facility. A total of 15% resource savings will be achieved annually.



Karweb Nonwovens orders a new complete Spunlace line from A.Celli

A.Celli Nonwovens SpA will supply a winding line dedicated to the production of Spunlace to Karweb Nonwovens.

Karweb Nonwovens, a division of the KARA Holding Co. and one of the major player active in the production of Spunlace and Airlaid, has renewed, after a first order made in 2016, the trust in A.Celli and its cutting-edge solutions in the nonwoven market.

The installation and start-up of the line, which will take place in the Turkish plant of Karweb Nonwovens located in Gaziantep, are scheduled for early 2021. A.Celli's supply includes a "Stream" Master Roll winder, an off-line slitter rewinder "Rapid" with an operating speed of 800m/minute and equipped with trim suction system, a shaft handling solution with "easy core" positioning device and a finished reel handling and packaging system.



A new complete Spunlace line for Karweb Nonwovens

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TURKEY

ANDRITZ to supply high-speed spunlace line to Karweb Nonwovens

International technology Group ANDRITZ has received an order from Karweb Nonwovens to supply a complete neXline spunlace line for its plant located in Gaziantep, Turkey. The line is scheduled for installation and start-up at the beginning of 2021.

This new neXline spunlace eXcelle line is dedicated to the production of viscose and polyester wipes as well as biodegradable wipes. The production capacity can be up to 18,000 t/a.

ANDRITZ will provide a full line with state-of-the-art equipment – from web forming to drying. The scope of supply includes the complete opening and blending machinery, two inline high-speed TT cards, a proven JetlaceEssentiel unit (including a water filtration unit) for hydroentanglement, a neXdry through-air dryer, and a neXecodry S1 system for energy saving.

This order confirms the strong and successful relationship between ANDRITZ and Karweb Nonwovens. In 2017, ANDRITZ supplied a spunlace line to Karweb for production of roll-goods made from several types of fibers, such as polyester, viscose, Tencel, cotton and polyamide.

Karweb Nonwovens, founded in 2013, is a division of Kara Holding and the first and only Turkish manufacturer of airlaid products for health care, hygiene and special disposable materials. The company serves customers worldwide.



Karweb Nonwovens spunlace line

ANDRITZ to supply state-of-the-art spunlace line to Eruslu Nonwoven Group

International technology Group ANDRITZ has received an order from Eruslu Nonwoven Group to supply a complete neXline spunlace line for its plant located in Gaziantep, Turkey. The line has a production capacity of 18,000 t/a and is scheduled for installation and start-up at the beginning of 2021.

This new spunlace eXcelle line will be able to process a wide range of fibers, like polyester, viscose, lyocell, and bleached cotton, with grammages from 30 up to 75 gsm. It will produce high-quality wet wipes for cosmetics applications, fem care and baby diapers, dust wipes, hair dressing towels, medical bandages and gauzes, and many other products. The new line will enable Eruslu to diversify its product portfolio into new technical applications.

ANDRITZ will deliver a complete line, from web forming to drying.

The scope of supply includes:

- one complete set of Laroche opening and blending machinery,
- two inline high-speed TT cards,
- one JetlaceEssentiel unit, which is the benchmark for hydroentanglement processes, including an ANDRITZ full filtration unit,
- one neXdry double drum through-air dryer,
- one neXecodry S1 system for energy saving

ANDRITZ and Eruslu have a long-term and successful collaboration that began in 2009. This is the fourth spunlace line to be provided by ANDRITZ, and it confirms the strong partnership between the two companies. Eruslu Nonwoven Group, established in 1972, is a leading Turkish company specialized in the production of various textile products. In the nonwovens sector, the Group provides disposable products for the home cleaning and health sectors.



ANDRITZ neXline spunlace eXcelle line.

Photo: ANDRITZ

TURKEY

Toscotec-supplied tissue line comes online at Picknik Marketing

South African tissue manufacturer Picknik Marketing Pty Ltd started up a MODULO-PLUS tissue machine supplied by Toscotec at its Johannesburg mill. The new line produced high quality tissue from day one.

The MODULO-PLUS machine has a sheet width of 2,750 mm, an operating speed of 1,500 m/min, and a production capacity of 75 t/d. It features a second-generation TT SYD Steel Yankee Dryer and energy-efficient, gas-fired TT Hood. The supply also includes the stock preparation and approach flow equipment and an off-line shaft puller. The service package includes erection supervision, commissioning, start-up assistance and training.

Itzik Nikfard and Rafi Nikfard, Directors of Picknik Marketing Pty Ltd, say, “This project marks a key expansion phase for our company. Due to the success of our SnowSoft brand, we are expanding our presence in the regional market, and are determined to continue on this trend by investing in advanced technology. Toscotec’s machinery will sustain our future growth by delivering the tissue quality and production efficiency we need to succeed in South Africa.”

“We are very happy to have partnered on this new project with Picknik Marketing, who is one of the most important local producers in South Africa”, says Toscotec Area Sales Manager Matteo Giorgio Marrano, “The successful start-up of this line is the result of the close cooperation between our technical teams. Toscotec thus strengthens its position in the South African market, where we successfully installed three complete tissue lines and one major rebuilding project since 2017.”

Established in 1999, Picknik Marketing Pty Ltd manufactures high quality tissue products including toilet paper, serviettes, paper towels, facial tissue under the brand SnowSoft and wadding-jumbo rolls.



MODULO-PLUS tissue machine start-up at Picknik Marketing Pty Ltd

SPAIN

ANDRITZ to supply a turnkey spunlace line to BCNonwovens

International technology Group ANDRITZ has received an order from BCNonwovens, Spain, to supply a neXline spunlace line as a turnkey project to meet growing needs from customers globally. The line is scheduled for start-up early in 2021. This new state-of-the-art line will help BCNonwovens to better serve its customers and position the company for current and changing requirements in the marketplace.

“The choice of spunlace line supplier was based on a thorough evaluation of the technologies available on the market. The combination of ANDRITZ process engineers’ expertise and our in-depth market knowledge has enabled us to define the appropriate line configuration for current and future market needs. The fully equipped ANDRITZ spunlace pilot line and expertise have played a key role in the order being awarded to ANDRITZ,” says Marko Rajamaa, General Manager of BCNonwovens.

The line features the best-in-class technologies available on the market and will be installed in a dedicated new building, meeting the highest hygiene and environmental standards. Due to its versatility, it will enable BCNonwovens to widen their product portfolio and process a broad range of raw materials, including sustainable fibers.

This line will also be equipped with ANDRITZ’s self-developed Metris UX platform, enabling predictive maintenance based on ANDRITZ’s new Vibe sensors and the risk-based maintenance app. It will improve the line’s efficiency by reducing downtime and thus help BCNonwovens to achieve its strategic objectives in terms of quality and sustainability. “With its wide range of applications, Metris will assist us in our operating activities, and we can already envisage a wide range of new possible developments with this extremely powerful ANDRITZ tool,” says Rafael Dufour, Strategy and Business Development Director of BCNonwovens.

Over the past few years, the ANDRITZ service team has supported BCNonwovens’ continuous improvement initiatives to push performance to new levels.

Miguel Vinas Pich, CEO of BCNonwovens, says “ANDRITZ has been a major partner for almost two decades. This new line will be an essential investment to help our customers achieve growth and serve demanding markets.”



BCNonwovens facilities in Sant Quintí de Mediona, Spain. Photo: ANDRITZ

FRANCE

Toscotec to rebuild PM4 at Papeterie Le Bourray's mill

Papeterie Le Bourray selected Toscotec to rebuild its PM4 tissue machine at Saint-Mars-la-Brière, near Le Mans, France. The start-up is scheduled for mid-2020.

The rebuild scope includes the modification of the existing Approach Flow System with a new fan pump and a fully hydraulic TT Headbox designed to operate in Tisco Former configuration, but capable of being upgraded into Crescent Former configuration in the future. Toscotec will provide full beginning to end support consisting of the detailed engineering, dismantling of the existing components, and installation of new components, commissioning, start-up supervision, and training. The estimated overall shutdown time will be less than a week.

The target of the rebuild is to improve sheet formation quality and CD basis weight profile, as well as increasing the machine speed. The tissue line is dedicated to the production of towel tissue using chemical pulp and waste paper.

Francois Bourdin, CEO of Papeterie Le Bourray, says, "We are glad to work with Toscotec, who is a leader in the manufacture of tissue machines. This headbox is our first major project since we restarted the mill in April 2019, and it will allow us to improve our quality and seek new markets."

Riccardo Gennai, Toscotec Sales Manager for Europe, says, "We are glad to have been selected as the supplier of this important rebuilding project. Toscotec is well positioned in Western Europe for new projects, but also for major rebuilds, which require a high degree of customization and flexibility, as well as a very tight schedule, where you coordinate all aspects of the project in order to reduce the machine downtime to a minimum. Over the last ten years, we completed more than 20 rebuilds in Western Europe."



Papeterie Le Bourray, France

GERMANY

Voith Group successfully completes the acquisition of Toscotec

Toscotec is pleased to announce that, following the obtainment of all required regulatory approvals, Voith has successfully completed its acquisition of Toscotec. Toscotec is now part of the Voith Group.

Andreas Endters, President and CEO of Voith Paper, says: "Toscotec's acquisition matches Voith's targets of strategic growth in a perfect way. Toscotec's range of products and services effectively supports our portfolio and further strengthens our position as a full-line supplier in important areas of the paper industry."

Toscotec will continue to offer its portfolio as established. The company will remain entrepreneurial in nature and will operate under the established Toscotec brand. In the area of tissue, Toscotec will carry out the business with new lines and major rebuilds for the whole Voith Group in the future. Voith Paper will continue to serve its delivered tissue machines. All other business activities will remain unaffected, and Voith and Toscotec customers will be able to purchase via their existing sales channels as usual.

Alessandro Mennucci, CEO of Toscotec, says: "This acquisition is a landmark in the history of our company. By joining forces with Voith, we plan to pursue new ambitious goals. We will build on our expertise and strong reference base in the paper industry and will be able to offer added value to our customers."

Technology Group Voith acquired 90 percent of the shares.



Toscotec headquarters in Italy

GERMANY

Record 2,200 mpm constant speed at WEPA Giershagen

WEPA Giershagen is steadily operating its Toscotec-supplied AHEAD-2.0S tissue line (PM19) at the speed of 2,200 mpm. PM19 came online in October 2015 and after a machine speed-up, reached the constant speed of 2,200 mpm. Based on this result, WEPA sets a new world record in the tissue industry for machine speed in continuous running conditions. The AHEAD-2.0S line is dedicated to the production of high quality tissue from 15 to 16.5 gsm basis weight. WEPA maximized its efficiency and achieved top performance in terms of production capacity with low energy consumption. PM19 production fulfils the quality parameters of WEPA's super-soft toilet paper.

Frank-Peter Folcz, Plant Manager WEPA Giershagen, said: "Concerning the layout of the machine, we decided for a double press with 2x 120 kN/m line load. This was a new way for us, but it was exactly the right way. In order to produce paper in this speed range in a stable manner and with the highest performance, you do not only need a good machine - motivated and very well-trained staff is just as important. This combination is key to success".

Riccardo Gennai, Toscotec Sales Manager, said, "We congratulate WEPA on the incredible job they did on this Toscotec machine. Our longstanding partnership has led to many achievements, and taking PM19 to the constant speed of 2,200 mpm is certainly a great one. This is what we work for everyday at Toscotec: supporting our customers' success with the best technology and services. It is a satisfaction for us to see that PM19 still has untapped drying capacity, given the considerable margin both in terms of steam pressure and hood temperature."

From 2006, Toscotec supplied the WEPA Group with five complete tissue lines - three of which on a full turnkey basis - and eight rebuild projects in paper mills in Germany, France, Italy and Poland.



WEPA Giershagen Toscotec's PM19

HUNGARY

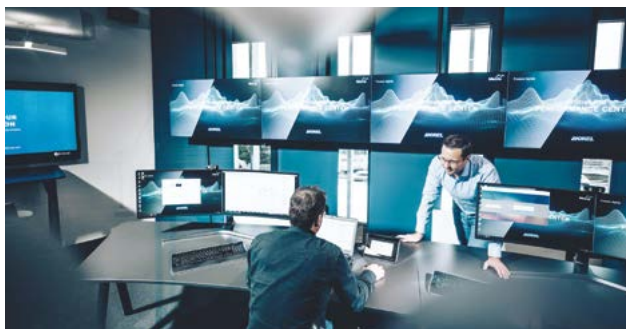
Vajda Papír increases tissue capacity

The ANDRITZ tissue machine at Vajda Papír, Dunaföldvár, Hungary, has been in full operating mode for a few months now, and the results are impressive: "We are really satisfied with the quality of our paper. We have received very positive feedback from our customers, who are impressed by the softness and handfeel," says Attila Vajda, CEO, Vajda Papír. The PrimeLineCOMPACT tissue machine - with a design speed of 2,100 m/min, a working width of 2.74 m, and a capacity of 35,000 t/a - produces tissue for high-quality facial wipes, napkins, toilet tissue, paper towels, and kitchen roll. The machine is equipped with a PrimePress XT Evo shoe press for improved dewatering as well as a 16 ft. PrimeDry Steel Yankee and a ReEvaporation heat recovery system.

"Right from the beginning, significant savings were achieved in energy consumption compared to operations with conventional suction press rolls. The new generation of the PrimePress XT Evo shoe press led to a remarkable increase in drynesss," explains Klaus Blechinger, Vice President Tissue at ANDRITZ. The scope of supply also included the complete stock preparation plant with approach flow, the fiber recovery and broke system as well as the PrimeControl automation. Additionally, auxiliary systems such as the machine hall ventilation system, compressor plant and steam boiler underline ANDRITZ's capabilities as a turn-key supplier.

The tissue production line also has an online connection to the new Metris Performance Center in Graz, Austria. The center offers comprehensive support for the Vajda Papír tissue mill by providing advanced digital services like the Metris UX Platform and the proven Metris OPP (Optimization of Process Performance), thus ensuring optimized process conditions and smooth production.

Vajda Papír is one of Europe's most dynamically expanding tissue producers. The 100% Hungarian- owned private company operates tissue production mills in Hungary and Norway and covers a wide tissue product range. During its history covering almost two decades, the company has also won several regional and national awards for its business and product quality and focuses strongly on environmentally friendly tissue production.



With the Metris Performance Center in Graz, Austria, ANDRITZ can offer Vajda Papír support exactly when they need it. Photo: ANDRITZ

AUSTRIA

ANDRITZ launches the new tissue machine PrimeLineVRT – Vertical CrescentFormer – for dry crepe tissue

International technology Group ANDRITZ has officially launched its new PrimeLineVRT – Vertical CrescentFormer – tissue machine for the production of dry crepe tissue.

The PrimeLineVRT features a vertical CrescentFormer in the forming section that enhances dewatering of the fiber web. This enables higher dryness right after the press section and an increase in paper caliper. Depending on the grade and basis weight of the paper produced, between two and four additional percentage points of dryness can be achieved after the press section compared to standard CrescentFormer configurations.

“The advantage of this new technology is that we do not need additional fabrics and fabric loops or any extra space in the basement for installation of the equipment. This results in lower building costs as well as easier operation and maintenance compared to similar technologies on the market,” says Stefano Marengo, Director of PrimeLineTIAC and R&D Tissue at ANDRITZ.

The PrimeLineVRT was developed and extensively tested at the ANDRITZ Tissue Innovation and Application Center in Graz, Austria. With this new technology that is tailor-made for significant improvement of dry crepe production, ANDRITZ once again confirms its strong position as one of the global market leaders for the supply of innovative key components used in conventional to ultra-premium grades within the tissue industry.



The new VRT technology was developed and intensively tested at the ANDRITZ PrimeLineTIAC tissue pilot plant in Graz, Austria. Photo: ANDRITZ

ITALY

Fabio Perini in Bologna: the relaunch comes from Research & Development, Industry 4.0 and “green” products

Fabio Perini relaunches the Bologna plant dedicated to packaging under the Casmatic brand, thanks to an industrial plan that focuses on Research & Development (including new employees), Industry 4.0 opportunities and “green” products. Francesco De Luca, General Manager of the Bologna plant comments “Today, thanks to an important reorganization, the Fabio Perini plant in Bologna has a leaner and more efficient structure, with a solid industrial plan that will allow us to better express our technologies in a business such as packaging, which completes the supply chain of the entire company.”

Research & Development will be central in this process. “Research & Development is one of our strategic areas and currently covers more than a third of our employees. We have planned the entry of three additional engineers who will join the team by the end of the year and who will join four other high-level professionals already employed in recent months. Research & Development is already working on several proposals for primary and secondary packaging which, presented in the coming months, will reveal new features and performance.”

Another area on which the Bologna branch will focus will be the Customer Service. “We have optimized the Expert On Line service, in terms of number of people and working hours, by providing customers with a 12-hour, daily, remote assistance service available 365 days a year, in order to be more timely in responding to customer requests and facilitate their work. Thanks to this team it will also be possible, in a few months, to extend the services offered by the Tissue Performance Centre of the converting division of Lucca to Bologna, to collect and analyse customer data remotely, provide them with information on the status of the machines and suggest improvements aimed at maximizing production efficiency.”

At last, the finished product. De Luca ends: “Casmatic is a renowned brand in the industry and we have always worked to improve technology in a strategic field such as packaging. We were among the first to present a completely biodegradable and resistant packaging and we are working on further solutions in this direction that we will introduce in the coming months. The forces put in place are many, all with the aim of giving a more than bright future to this plant, expanding market opportunities and further increasing the skills of the company.”



Fabio Perini Bologna

Lucart gets the green light for a 10 million Euro investment for a new cogeneration plant in Porcari

Lucart, Europe's leading manufacturer of tissue, airlaid and MG paper for flexible packaging, announces a 10 million Euro investment for the installation of a new high-efficiency cogeneration plant at the company's time-honoured Porcari factory in the province of Lucca, Italy. The project will come into fruition with the collaboration of Baker Hughes that will supply NovalT12 technology entirely designed and produced in Italy.

The NovalT12 gas turbine to be installed in Porcari can supply a power of 12.5 MW, with cogeneration efficiency of up to 85%. At the same time, compared to older generation turbines, the NovalT12 achieves a reduction of CO₂ and nitrogen oxide (NO_x) emissions of 11% and 40%, respectively.

The new machinery will make it possible to explore the use of hydrogen, when it will become available, and of other renewable sources in the best way possible.

"Now that the Italian Government and Confindustria have finally agreed on a shared strategy for industrial policy guidelines and investments to be put in place to make Italy a leader in Europe, we can start investing again to harmonise sustainability and industrial growth, factors that have always been in our corporate DNA", said Massimo Pasquini, CEO of Lucart. "The announcement of a plan for the Green New Deal,

energy transition and real measures for industrial supply chain competitiveness puts us in the position look to the future with more tranquillity, security and stability".

The investment at the Porcari plant is part of broader industrial strategy of Lucart, which has always been consistent with the logic of protecting environmental and now considers the European Green Deal as an important new opportunity to relaunch a key industry, such as that of paper, exploiting the potential offered by decarbonisation.

The new plant completes the energy renewal plan of the Group with the total self-generated power in Italian factories reaching 32 MW. The first cogeneration plant of the paper-making Group was installed at the Porcari site back in 1989 and kicked off a long history of development and collaboration between Lucart and Baker Hughes.

As early as December 2019, the two companies had already concluded the construction of similar machinery at the Diecimo plant. High-efficiency cogeneration plants are universally regarded as the best technology available for the paper industry. A constant supply of electricity, day and night, and of thermal energy, used in various stages of the process, such as drying paper and sludge dewatering, are needed to make paper with modern technologies. Pending the development of other renewable sources, gas remains the only energy source that can be employed.

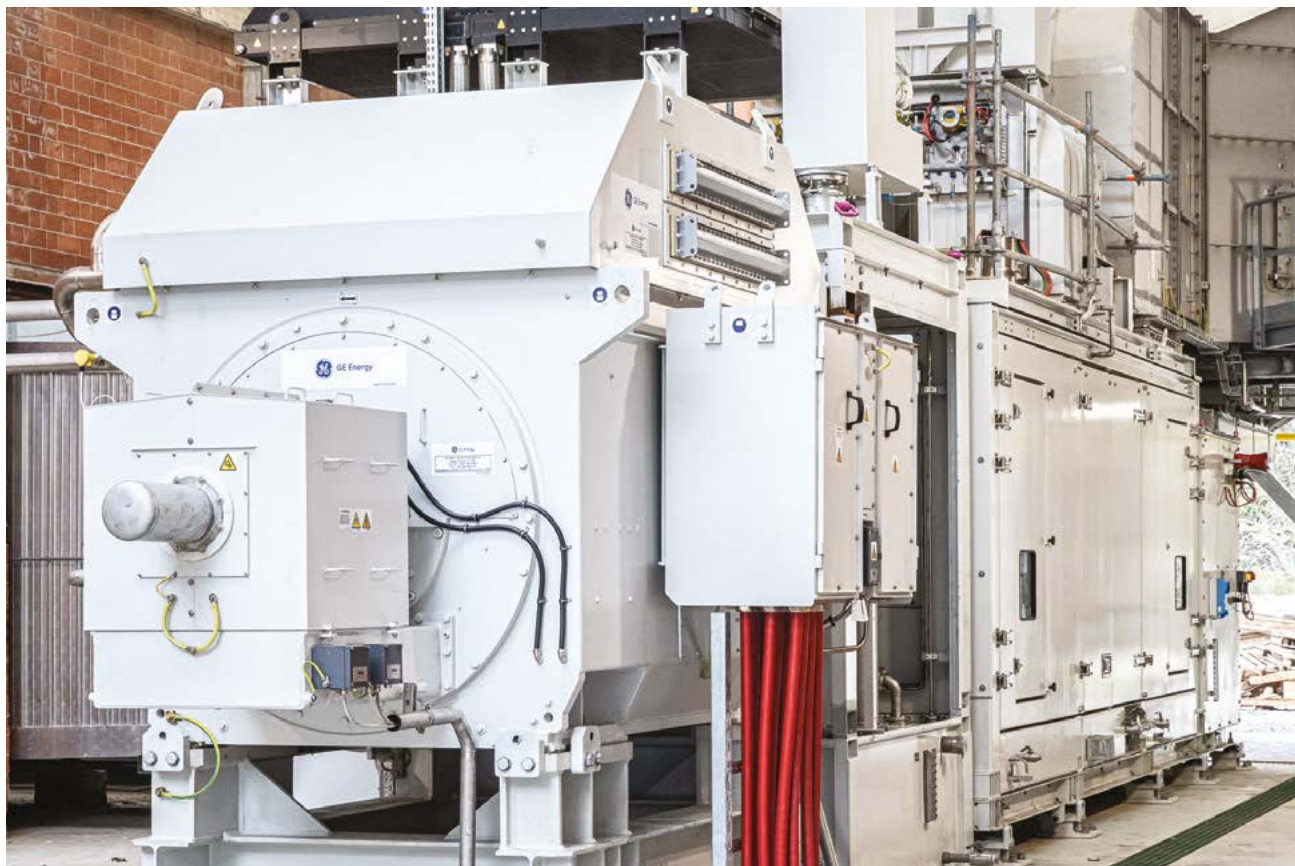


Photo: Lucart Group

Toscotec completes two drying section rebuilds for Lucart

From July 2019 to February 2020, Toscotec successfully completed two customized rebuilds at Lucart Diecimo tissue mill. The two rebuilding solutions included the replacement of PM5 and PM6's existing Yankees with Toscotec's second-generation Steel Yankee Dryers, complete steam and condensate systems, as well as the installation of a TT SuctionPressRoll.

This is yet again another major achievement in the strong and long-lasting cooperation between Lucart and Toscotec. Over the last ten years, Toscotec supplied to Lucart Group one complete tissue line, two slitter rewinders TT WIND, and various tailor-made rebuilding solutions on six different tissue machines in Italy and France.

The Lucart Group are pioneers in sustainability and they continuously uphold the highest standards of energy efficiency and specific energy consumption in their production processes to promote fair and sustainable development in our shared environment.

Lucart has tapped Toscotec for its efficient drying solutions, in particular TT SYD and its energy recovery-oriented system design. The extraordinary energy saving advantages that TT SYD delivers, on a potentially infinite number of cycles over

the course of its life, save a significant amount of energy and operating costs. Toscotec's energy recovery equipment, chiefly heat exchangers, are a key part of TT SYD's steam and condensate system in that they contribute to achieving the highest possible level of thermal energy efficiency.

"Based on the high quality of the work done on PM5 and PM6, Toscotec confirmed its leadership in the construction and installation of steel Yankee dryers. We are very satisfied with the achieved performances, as well as the time schedule and project management of these rebuilds. The work team and the constructive collaboration have been an important key to the success of the projects," said Eng. Franco Pasquini, Lucart's Chief Technology Officer.

Valerio Volpi, Toscotec's Project Manager of Lucart's PM5 and PM6 rebuilds, says: "Our highly qualified Italian technicians worked with Lucart's experts as one team. We were right on schedule according to the agreed timetable and the two TT SYDs performed well from the first hours of operation. This is a shared achievement for the Lucart-Toscotec team."

Lucart's production capacity is 395,000 tonnes/year of tissue paper on 12 continuous machines. Its consolidated turnover will amount to more than €500 million, with more than 1,500 employees in 9 production plants (five in Italy, one in France, one in Hungary and two in Spain) and a Logistics Centre in Italy.



Toscotec drying section rebuilds at Lucart



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FINLAND

Valmet acquires 14.9% ownership in the future Neles

Valmet has acquired 22,374,869 shares in the future Neles Corporation from Solidium Oy, representing 14.88% of all Neles' shares and votes.

Neles Corporation is planned to be created in the partial demerger of Metso, in which Metso's Flow Control business would become the independent Neles Corporation and would continue Metso's listing on Nasdaq Helsinki. The completion of the partial demerger is currently expected to take place on June 30, 2020 (pending final merger control approvals).

After the partial demerger, Neles will be an independent globally leading diversified valve, valve automation and service company with net sales in 2019 amounting to EUR 660 million and adjusted EBITA margin to 14.6%. Neles' headquarters are located in Vantaa, Finland and the company has operations in more than 40 countries worldwide with approximately 2,900 employees.

Approximately 70% of Neles' net sales is recurring business. Neles' business is well diversified across process industries and regions, with 26% of net sales coming from the pulp and paper industry. Since 2011, Neles' orders received have grown by approximately 5% annually and the profitability has improved.

"Neles is a good quality global company with a large share of recurring business and a strong position in the pulp and paper industry. It has demonstrated good growth and has potential to grow further. We have today agreed to acquire a minority share in Neles and our target is to increase our ownership when Neles' share price supports additional purchases. Valmet's goal is to have an active long-term role in the development of Neles. The strategic rationale of the share acquisition is further supported by the fact that Valmet and Neles have a common heritage, serve similar global industries and benefit from same global megatrends." Commented Pasi Laine, President and CEO of Valmet

The agreed purchase price is EUR 8.00 per share, corresponding to a total transaction value of EUR 179 million at the signing, paid 100% in cash. The price will be adjusted based on Neles' share price development during certain limited time period. The possible adjustment is paid or received by Valmet in cash. The adjustment agreed is customary and capped, and will not have a material impact on the transaction value.

Valmet will finance the share acquisition with a new loan facility.

CHINA

Gold Hongye Paper purchases three tissue E- WIND® T-200S rewinders

The Asian Pulp and Paper (APP) Group, one of the largest and most important companies in the world as regards the production of paper, tissue and packaging materials, has signed the purchase contract for three A.Celli E-WIND® tissue rewinders T200S shaftless for the Gold Hongye Paper production plant located in Nantong, in the Chinese province of Jiangsu.

The supply will be used to process mother rolls with diameter of 3000 mm and a paper width of 5.6 m, with basis weights varying from 10.5 to 45 gsm, and with a maximum operating speed of 1100 mpm. Particularly noteworthy is that two of the rewinders are equipped with unwinders with the addition of the calender as an optional.

After the purchase of three E-WIND® T-200S for the Chinese factory located in Xiaogan and the order for the tissue rewinders supplied in 2017 to APP Indonesia, this last agreement definitively confirms the customer's trust and satisfaction with the solutions and services provided by A.Celli Paper and A.Celli Shanghai.



Sunshine Co. Ltd starts up a new winder and slitter rewinder

The Chinese plants of SUNSHINE New Material for Hygiene and Health Care Jiangyin Co. Ltd. in Jiangyin, have successfully started up two A.Celli machines for Spunlace product, a winder and a rewinder installed on two different lines.

A.Celli supply, specifically tailored to the specific needs of the customer, includes:

- E-WIND® STREAM Master Roll winder of 3600 mm capable of handling reels up to 2500 mm in diameter, with basis weights ranging from 30 to 100 gsm and with a maximum operating speed of 200 m/min, specifically designed for carded products and to guarantee maximum reliability and minimal maintenance
- E-WIND® RAPID off-line slitter rewinder of 3600 mm, calibrated for reels with a maximum diameter of 1200 mm, with basis weights ranging from 30 to 100 gsm and with an operating speed of 800 m/min. Among the optionals we can find the "DSS" (defect stop system), a system able to monitor any defects on the reel, report them and give the possibility to remove them if necessary, and the Slittomatic® automatic slitting units positioning.



ANDRITZ to supply stock preparation system to Vinda Personal Care

International technology Group ANDRITZ has received an order from Vinda Personal Care (Guangdong) Co., Ltd. to supply a stock preparation system to feed its four tissue machines at the mill in Yangjiang, Guangdong, China. Start-up is scheduled for the second to third quarter of 2021.

The new system will have a capacity of 200 bdmt/d and will process a mixture of NBKP (Needle Bleached Kraft Pulp), LBKP (Leaf Bleached Kraft Pulp) and bagasse as raw material. ANDRITZ will install the complete system, with equipment for low-consistency (LC) pulping, high-consistency (HC) refining, approach system and broke handling.

The LC pulping system comprises a FibreSolve FSV pulper and a high-density (HD) cleaning system for optimum slushing of the raw material. In order to achieve optimum processing of the mixture of annual and short fibers, the customer opted for a 120 bdmt/d HC refining system for the tissue production line. The combination of an ANDRITZ Pulp Screw Press and an HC refiner, type CDIPL, will enable superior fiber properties at low energy consumption.

The outstanding cooperation between the two companies started over 17 years ago, and ANDRITZ has since then supplied over 20 stock preparation systems to the Vinda Group. The successful business cooperation as well as the excellent performance of recently installed technologies were the decisive criteria that persuaded the customer to trust in ANDRITZ once again.

Vinda Personal Care (Guangdong) Co., Ltd., part of the Vinda Group, is one of the top four tissue producers in China. The Vinda Group provides high-quality hygiene products and services, and operates four core business segments with the key brands Vinda, Tempo, Tork, TENA, Dr. P, Libresse, VIA, Libero and Drypers.



FibreSolve FSV pulper as part of the LC pulping system. Photo: ANDRITZ

CHINA

A.Celli Nonwovens and Dalian Ruiguang Nonwoven Group fruitful collaboration continues

On April 29th, the project for the supply of an end-line consisting of an E-WIND® STREAM winder and a RAPID rewinder for spunlace product ended with the acceptance of the order and the full satisfaction of our customer.

The two A.Celli machines built, delivered and installed at the customer's headquarters located in the city of Dalian (China) are capable of handling reels of 3600 mm, with diameters up to 2500 mm (STREAM) and 1200 mm (RAPID), with basis weights ranging from 30 to 100 gsm and with a maximum operating speed of 150 m/min for the entire line and 800 m/min for the RAPID rewinder.

Together with the supply of the aforementioned solutions, A.Celli Nonwovens' engineers held a training course dedicated to the staff of the Dalian Ruiguang Nonwoven Group on the functioning of the machinery and on the safety procedures to be observed.

Particularly noteworthy, this is the first project that has reached the acceptance phase entirely commissioned and initiated by our colleague Frank Li of the Chinese branch A.Celli Foshan Technology Co. Ltd., with the local support of Mr. Massimo Lamioni and the remote support provided by A.Celli Nonwovens.

A supply that increasingly strengthens the historical relationship between our company and the Dalian Ruiguang Nonwoven Group and which consolidates A.Celli's position in the nonwoven market.



Baoren Hezhong orders a complete spunlace line

International technology Group ANDRITZ has received an order from Zhejiang Baoren Hezhong Technology Co., Ltd, China, to supply a complete neXline spunlace line. The line is scheduled for installation and start-up during the third quarter of 2021.

This high-capacity spunlace eXcelle line can process various types of fiber, such as polyester, viscose, Tencel, and bleached cotton, and is dedicated to the production of hygiene fabrics such as disinfecting wipes. The final products will have fabric weights ranging from 30 to 80 gsm, and the annual production capacity will be up to 20,000 t/a.

ANDRITZ will provide a complete line with state-of-the-art equipment – from web forming to drying. The scope of supply includes the complete opening and blending machinery, two inline high-speed TT cards, a proven JetlaceEssentiel unit for hydroentanglement, and a neXdry through-air dryer with double drum. A high-speed winder from A. Celli will complete the line.

Zhejiang Baoren Hezhong Technology is a big player in China in the production of nonwoven goods and has several spunlace lines in operation. The final products are applied in many fields, such as medical care, cleaning, and so on, and are exported to South Korea, Japan, and the USA, among other countries.

MALAYSIA

A.Celli upgrades KC Products tissue rewinder

A.Celli concluded the scheduled upgrade of the TM2 Tissue Line of Kimberly Clark Products Malaysia, Kluang Johor Mill, with a new off-line shaft puller and a new set of expandable spool, in combination with the upgrade of the rewinder slitting unit. After the upgrade of the TM1 rewinder and other tissue line equipment, A.Celli Paper's Customer Service team installed and successfully concluded the upgrades on the TM2 tissue line. The intervention entailed updating the core handling system downstream the TM2 pope reel with the supply of the A.Celli off-line shaft puller. Since this an automated process, it allows the customer to improve and accelerate the shaft extraction from the mother roll and to improve KC Products Malaysia personnel safety. The rebuilding of the TM2 line has been completed with the upgrade of the Rewinder slitting section with a modern and efficient knives system.

A.Celli Paper worked in close contact with the customer, finding the optimal solution for a light-impact modification with a short shutdown time. The new configuration kept into consideration the convenience of the operations that had to be carried out on one hand and the needs of KC Products Malaysia on the other, in order to obtain the best results in terms of efficiency.



VIETNAM

Xuong Giang Paper Mill boosts tissue capacity

International technology group ANDRITZ has received an order to supply a complete PrimeLineCOMPACT S 1300 tissue machine with stock preparation system to Xuong Giang Paper Mill, Vietnam, a subsidiary company of Bac Giang Import Export JSC. The new line has a design capacity of 54 tons/d, a design speed of 1,300 m/min and a paper width of 2.85 meters. It will process virgin pulp as raw material to produce high-quality facial and toilet tissue as well as napkins. Start-up is scheduled for the fourth quarter of 2020.

The stock preparation plant is split into separate short fiber and long fiber systems and also includes the approach flow system, fiber recovery and broke handling equipment, and pumps. The tissue machine has a 12-ft. PrimeDry Steel Yankee, equipped with a steam-heated hood to ensure highly efficient drying and substantial energy cost savings compared to operations with a cast iron Yankee and gas-heated hood. The Yankee will be manufactured at the ANDRITZ Steel Yankee Business Center located in Foshan, China.

ANDRITZ will also supply a tailored automation system, including PrimeControl MCS (Machine Control System), DCS (Distributed Control System) and MMD (Multi-Motor Drive) as well as the complete LV MCC (Low-Voltage Motor Control Center). Detailed engineering, erection work supervision and commissioning services for the high-performance production process complete the scope of supply. This ANDRITZ PrimeLineCOMPACT S 1300 is the third tissue machine to be supplied by ANDRITZ to the Vietnamese market in recent years.



JAPAN

Gambini delivers its first Japanese TouchMax

The partnership between Gambini and Kawano Zoki, the Japanese industry leader in tissue-converting machinery, has led to great results: for the 1st time a Japanese tissue producer has chosen Gambini's TouchMax technology. Fuji Satowa was founded in 1922 and is now located in Fuji city, Shizuoka prefecture, at the center of Japanese paper industry. They mainly produce toilet paper, using recycled pulp such as pre- and post-consumer waste material. "The key to success in matured bathroom tissue market in Japan is how you can differentiate your products. I see TouchMax.Twin as a powerful measure for the future, for its ability to realize both highly differentiated products and flexible manufacturing. Many machine-makers offer standardized machines; Gambini, by working together with Kawano Zoki, is ready to meet our needs for installation into an existing line and adaptation to Japanese standards. I highly appreciate Gambini's attitude", says Yoshimasa Satowa, President of Fuji Satowa. This TouchMax – which marks also the 72nd time a customer of Gambini's chooses this cutting-edge turret-style family of embossers – will be installed into an existing converting line of Kawano Zoki's, showing how flexible these products are.



JOA East Asia announced

Curt G. Joa, Inc., a global, custom-engineering design and machine-building company, announced the opening of JOA East Asia in Japan. JOA East Asia will be led by Mr. Shinji (Rich) Yamaguchi, who has been active in the international hygiene industry for over 30 years. Mr. Yamaguchi's role is to provide the East Asian converters a new perspective

on product features, converting lines, and upgrade kits offered by Curt G. Joa, Inc. As a complete partner to the industry, JOA East Asia will offer additional services such as engineering coordination, installation supervision, and service support. The team at the headquarters of Curt G. Joa, Inc. will support JOA East Asia with the appropriate level of engineering consultation, manufacturing, spare parts, and service. "The addition of Mr. Yamaguchi allows us to offer the level of local support being asked for by converters in East Asia. It also provides the converting base in East Asia the increased access to JOA's proven process technologies, which has been developed for North American and European customers, and custom-engineered solutions," said Mr. Rick Michaletz, President of Curt G. Joa, Inc. at a recent company-wide meeting.



Curt G. Joa, Inc. has been an active member in the nonwovens industry for nearly 90 years as a successful machine manufacturer for baby/adult diapers and pants, adult incontinence pads/briefs/pants, feminine napkins, face masks, medical gowns, caps, and numerous specialty products. With headquarters in Sheboygan Falls, USA, the Curt G. Joa, Inc. company remains a 4th-generation, family-owned company. Curt G. Joa, Inc., a global leader of custom and premium machinery to produce disposable products, utilizes its own independently developed and patented technologies in its machinery. For nearly 90 years, customers have relied on Curt G. Joa, Inc. to solve their complex production concerns both effectively and economically.

Valmet receives the eighth tissue line order from Hayat Kimya

Valmet will supply the eighth tissue line delivery including an extensive automation package to Turkish tissue producer Hayat Kimya. The company has decided to invest in a third machine in Russia in order to meet the increasing demand for their high-quality tissue products. This is the first machine at their new mill outside Moscow. The new line will add 70,000 tons of tissue to company's current production of facial, toilet and towel tissues.

The order is included in Valmet's orders received of the second quarter 2020. The value of the order will not be disclosed. Hayat Kimya, the current world speed record holder with their TM2 tissue machine in Turkey supplied by Valmet, is constantly targeting latest technology to reach the highest efficiency and the lowest possible energy consumption. Previously the company has installed six Valmet Advantage DCT 200TS tissue production lines to its mills in Turkey, Russia and Egypt with one more starting-up in 2021.

"Our ambition is to run at high efficiency and Valmet's technology is certainly supporting that target. We are regularly updating our machine fleet to make sure we always operate at optimum production level. We find both Valmet's technology and people easy to deal with," says Lütü Aydın, Director, Paper Group, Hayat Kimya.

"We are excited to be part of Hayat Kimya's successful journey. The company started only fourteen years ago and is already a world player, who will soon have nine tissue lines in operation," says Björn Magnus, Sales Director, Tissue Mills business unit, Paper business line, Valmet.

The new Valmet Advantage DCT 200 TS tissue machine TM9 will have a width of 5.6 m and a design speed of 2,200 m/min. The raw material to be used in the tissue production will be virgin fiber. The new production line is optimized to save energy and to enhance the quality of the final product.

Hayat Kimya A.S. is part of the Hayat Group. The Hayat Group primarily operates in the home care, hygiene and tissue categories for the consumer goods industry. Hayat has continued to invest significantly since their entrance into the tissue category 14 years ago and today the Group carries "The Largest Tissue Manufacturer of Africa, Middle East and Eastern Europe" title with 490,000 tonnes production capacity/year.

Arkhum Tissue Group successfully starts up PrimeLine™ W6 tissue machine

International technology Group ANDRITZ has successfully started up the PrimeLine™ W6 tissue machine, including stock preparation, re-evaporation plant, hall-ventilation, automation, and electrification, at Arkhum Tissue Group LLC in Vorsino (Kaluga region), Russia.

The ANDRITZ tissue machine – with a design speed of 2,100 m/min and a paper width of 5.6 m – produces high-quality facial, toilet, napkin, and kitchen towel grades made of 100% virgin pulp. The combination of a 16 ft. PrimeDry Steel Yankee and the latest PrimePress XT Evo shoe press technology enables a high drying capacity and achieves remarkable cost savings and operational flexibility compared to systems with conventional presses and cast Yankee dryers. The re-evaporation system that feeds energy back to the production process enables additional savings.

The scope of supply also included stock preparation with an approach flow system. The centerpiece of the stock preparation line is the ANDRITZ Papillon refiner, which treats fibers gently in the cylindrical refining zone in order to achieve superior fiber properties at low energy consumption. ANDRITZ also provided process pumps, piping, instrumentation, electrification and automation as well as on-site services.



ANDRITZ PrimeLine™ W6 tissue machine at Arkhum Tissue Group in Russia. Photo: ANDRITZ

MEXICO

Grupo Corporativo Papelera starts up of a new tissue production line

The iDEAL® mod. 2000S Tissue Machine start-up took place on March, 20th in Mexico, perfectly in line, even in advance, compared to the challenging project scheduling and despite the very critical global conditions.

The new A.Celli iDEAL® Tissue Machine machine has a 2650-mm web width, a working speed of 2000 m/min and a production capacity of about 100 tpd. It was designed to answer all the requests and demands made by Grupo Corporativo Papelera, who with this step forward made its strategic investment in the world of tissue paper production thanks to a high-performance machine.

The scope of supply represents the state of the art of A.Celli technology, in particular with the following great innovations:

- 16' Forged Yankee, innovative and unique on the market, consisting of a single piece of steel heated to more than 1200 ° C, moulded and processed using forging and hot rolling systems, from which a cylinder of homogeneous material without welds is obtained.
- Extreme Automation DCS System, completely new, intuitive and user-friendly that has allowed the customer to manage the machine autonomously from the very first day, always with the prompt remote assistance of A.Celli technicians.

The A.Celli team showed great flexibility, managing to complete a highly customized project on an engineering and assembly level.

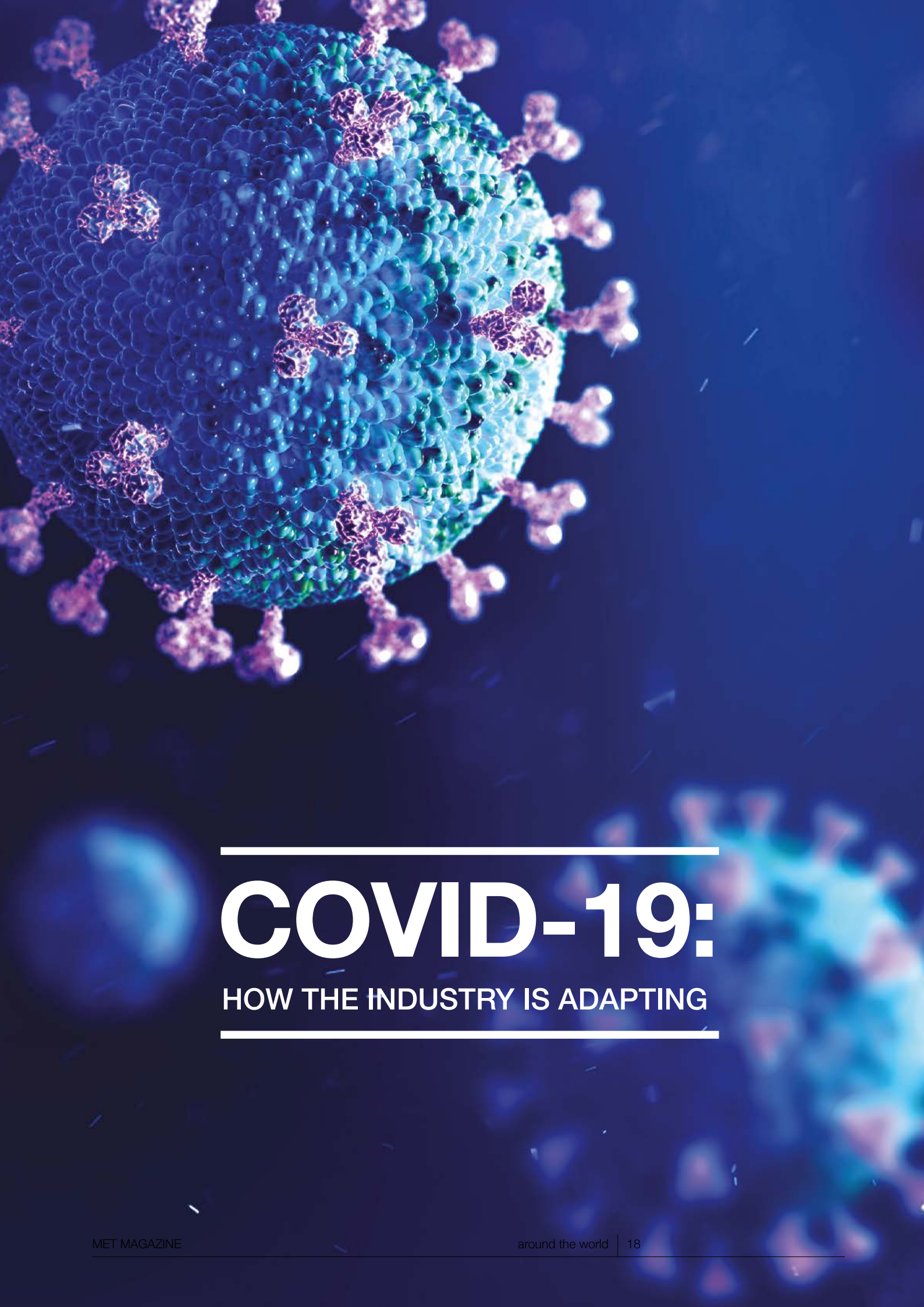
Despite the very critical global conditions and with the extraordinary support and expertise of the Grupo Corporativo Papelera's staff, the A.Celli team did not lose concentration, being able to manage the paper to the pope and make the first reel a few hours after the ignition.

With this new Tissue Machine A.Celli Paper will offer Grupo Corporativo Papelera a leap forward in quality, aiming for important and ambitious production milestones.

The long-standing competencies, dependable reliability and technological excellence that have always distinguished the Group make A.Celli Paper the ideal supplier for every customer.



The new A.Celli iDEAL® Tissue Machine machine at Grupo Corporativo Papelera



COVID-19:

HOW THE INDUSTRY IS ADAPTING

Fameccanica.Data S.p.A. launches the Fameccanica Protective Mask machine (FPM)

The machine was the protagonist of an important agreement between Fameccanica and the Italian Government for the fight against the propagation of Coronavirus (COVID-19), signed on May 2nd. The agreement provides for the supply of 25 high-speed production lines for surgical masks. "This project is based on an extraordinary industrial, technological and human commitment and was born in a logic of service to the country in a moment of extreme difficulty. We were quick to design an innovative technology - commented Alessandro Bulfon General Manager of Fameccanica - which combines speed standards with the product's ability to overcome the limits of finding raw materials. This puts us in a position today to face the country's reopening phase and tomorrow to deal any other emergency health situation".

Thanks to the Italian technology and initiative Fameccanica delivers a machine fully matching with manufacturers' needs:

- High production speed: high product volumes with one machine (over 45000 mask/hour)

- Fast and easy product size change: wide range of products with different sizes for differentiated batches
- A short-time installation and start-up lets manufacturer be rapidly on the market
- One-operator process: as the machine is easy to be run you can employ one person with no special skills

Fameccanica is an international automation and robotics group for the consumer goods industry, part of the Angelini Group. Fameccanica Group develops high productivity systems and technologies in a wide range of applications (disposable sanitaryware, personal and environmental hygiene products) as well as highly customized production lines designed for the specific needs of large manufacturing companies. Its high value-added digital services and a continuous approach to sustainability help many companies around the world to be competitive and innovative.

Herrmann Ultraschall establishes Mask Task Force

Herrmann Ultraschall supplies the ultrasonic welding technology for the production of different face masks. Ultrasonic welding is a preferred technology for the production of respiratory masks made of nonwovens and demand increases worldwide. Herrmann Ultraschall is receiving multiple inquiries from medical technology customers who are expanding their existing production capacities and from hygiene customers who are switching from diaper to mask production. But also players from completely different sectors, such as the automotive industry, want to enter the market.

Herrmann Ultraschall has set up a mask task force to coordinate all efforts. Nine different mask types have been identified, says CEO Thomas Herrmann, ranging from simple face masks to complex 3D deep-drawn masks with breathing valves. The technological solutions range from simple intermittent manual welding to complex high-speed systems. The company offers products from standard machines and components to complex rotary ultrasonic welding modules to serve the different solutions, Herrmann explains further. Special shifts are worked in order to meet the high demand in a timely manner.

Since the majority of face masks still come from Asia, Herrmann Ultraschall also supports various European initiatives to shorten transport distances. These include the conversion of diaper machines - as at the Italian company Fippi in Milan, high output figures of up to 900,000 masks per day can be achieved.



Herrmann Ultraschall ultrasonic station for masks

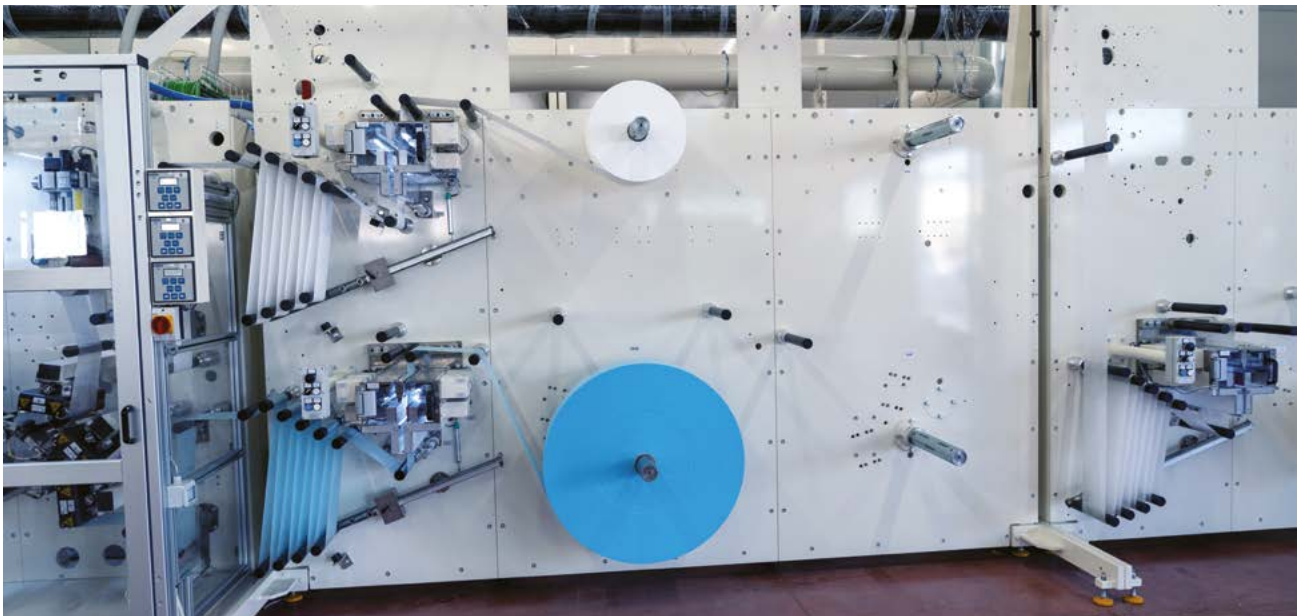
ANDRITZ has developed a high-speed converting line for the production of face masks

ANDRITZ Diatec, part of international technology Group ANDRITZ, has developed a fully automatic, high-speed face mask converting line for the production of disposable face masks. this new converting line will be able to produce masks for surgical/medical applications and respiratory masks, such as duckbill and flat fold respirators.

The new ANDRITZ D-TECH respiratory mask line can be customized to laminate different layers of fabric (spunbond, meltblown, thermo-bonded nonwovens and others), ensuring highest quality and hygiene standards. The line comprises unwinding and guiding units for nonwoven webs, automatic splicing of all raw materials, cutting and positioning devices for the metal nose bar, an edge welding and cutting unit, a 90° rotation process, positioning and welding of the ear loop elastics, as well as quality control using the D-TECH Vision System. In addition, a broad selection of options are available for the main line. Machine dimensions can be customized according to customers' plant requirements.

The respiratory mask ensures a higher level of protection for the wearer as well as his environment due to its particle retention capacity ($<0.3\text{ }\mu\text{m}$) and the higher-quality defined total leakage compared to conventional protective masks. Producers already operating an ANDRITZ D-TECH surgical mask line can upgrade it to produce respiratory masks with a special kit. The production line has a speed of up to 110 m/min and is able to produce up to 750,000 face masks per day. There are also different packaging options available for both surgical and respiratory masks: products can be packed in bags by an automatic flow wrapping machine or in cardboard boxes by an automatic cartoner.

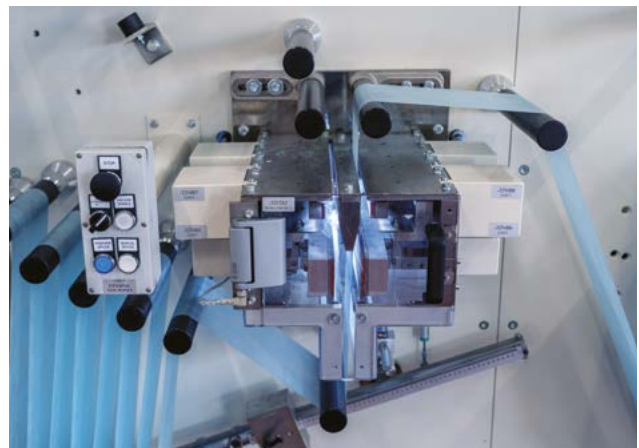
ANDRITZ Diatec is one of the globally leading specialists for converting machines for production of hygiene end products: diapers for children and adults, feminine hygiene, underpads, absorbent pads for the food industry, surgical face masks, and now also respiratory face masks.



D-TECH respiratory mask line: Unwinding module. Photo: ANDRITZ



ANDRITZ D-TECH Face Mask converting line. Photo: ANDRITZ



ANDRITZ respiratory mask line, Automatic splicer. Photo: ANDRITZ

From toilet paper to face masks: Fabio Perini patents technology to produce up to 10,000 biodegradable bamboo masks per minute

A technological innovation capable of producing up to 10 thousand face masks per minute, which can be adapted to all main “non-woven” materials, including a particular bamboo-based material that can be disposed of with other organic waste. This is the patent filed by Fabio Perini, a Lucca based company which is part of the Körber Tissue Business Area. The technology, which developed in just over a month during lockdown, can be quickly added to the company’s converting machines, new and/or already installed with customers all over the world.

Oswaldo Cruz Jr., CEO of Fabio Perini S.p.A. and the Körber Tissue Business Area, has this to say about the technology: “Opportunities for innovation are everywhere, even in the midst of a health crisis, and during the lockdown our team got to work to respond to two needs: on the one hand, the huge demand for face masks – the Polytechnic University of Turin, for example, estimates that Italian companies alone will need almost 1 billion a month –; on the other, the issue of their disposal. In just over a month, from ideation to production, we arrived at the solution: a technological update that would allow the production of up to 10,000 masks (in rolls) per minute, and the use of a bamboo-based non-woven fabric that is biodegradable and can be disposed of with other compostable waste”.

These single-layer masks are very useful for daily, collective, and community use in places such as airports, public

transportation, shopping malls, supermarkets, groceries and of course in our workplaces.

“The solution makes our machines also capable of manufacturing certified masks; however, pairing these materials with plastic would make the masks non-biodegradable. Nevertheless, together with different raw materials suppliers in the industry we are testing specific material solutions and we are confident of finding a solution soon” continues O. Cruz.

Coronavirus has thus also diversified Fabio Perini’s business. O. Cruz concludes: “On this innovation, all over the world, we have had excellent feedback from our customers and we expect a significant grow in our business. In fact, from our own privileged point of view - we work with toilet paper and paper towel manufacturers across the world, from China to the United States - we have seen an important change. Initially the request was to increase the production capacity of the machines, especially those for toilet paper, due to the “stock effect” of these products, and to cope with this we even introduced a service for the fast delivery of machines (and those who know our sector know very well that this is not easy!). As weeks went by, demand has focused more on folded tissue paper products, due to the increase in the number of disposable items being used to meet greater hygiene needs. I believe this will continue as a trend for a long time to come”.



Fabio Perini mask



Fabio Perini mask package

Fameccanica to supply high speed lines for the production of protective masks to Civil Protection

The Special Commissioner for the COVID Emergency, Domenico Arcuri, and Fameccanica (Angelini Group) have signed an agreement for the supply of 25 high-speed production lines for surgical masks to Civil Protection.

The production lines that will be supplied to the Civil Protection have been designed, manufactured and patented by Fameccanica. The technology is able to allow the installation in a very short time and the increase of the production speed, getting of much higher volumes than those granted by existing machines today.

"I would like to thank the major Italian companies that have been at our side in the management of this emergency and in particular Fameccanica of the Angelini Group - commented the Special Commissioner, Domenico Arcuri - This agreement is a positive example of collaboration between the public and private sectors in the exclusive interest of the citizens. It is further proof that Italy really is a great country".

"This project is based on an extraordinary industrial, technological and human commitment and was born in a logic of service to the country in a moment of extreme difficulty. We were quick to design an innovative technology - commented Alessandro Bulfon General Manager of Fameccanica - which combines speed standards with the product's ability to overcome the limits of finding raw materials. This puts us in a position today to face the country's reopening phase and tomorrow to deal any other emergency health situation".

Angelini Holding is the parent company of an international group leader in the health and well-being area of the pharmaceutical and mass-market sectors. Founded in Italy in 1919, today Angelini group operates in 17 countries with a staff of 6,000 and a turnover of €1,700 million. The Angelini group also operates in the Personal Care sector through Fater, a leader in the Italian market for absorbent hygiene products and a key player in the European bleach market. In the Machinery sector, the group operates through Fameccanica.

MTC celebrates 25 years in business with the expansion of its R&D and the achievement of over 100 technological patents

Daniele Bernacchi, MTC General Manager: "The Covid emergency? It will increase the demand for folded products".

MTC of Porcari (LU), a company of the Business Area Tissue of the Körber Group for folded products, is celebrating 25 years in business with the achievement of over 100 technological patents and the expansion of its area dedicated to Research & Development. "Since its founding - says Daniele Bernacchi, General Manager of MTC - the company has had a very dynamic trajectory, with constant double-digit growth in terms of turnover, production area, and staff. Our great intuition, back then, was to focus on folded products, placing us in a market that had very few producers at the time, and we were rewarded for this choice. To celebrate our 25 years in business, we have decided to invest further in research, which is what has always distinguished the company's DNA: our research and development area will be expanded and a specific space will be created and reserved for design, prototyping, and testing of new lines dedicated to the production of innovative folded tissue products that will be presented at the 2021 edition of IT's Tissue".

But it's not only about innovation — there is growth in foreign markets, too. "Being part of the Körber Group since 2017 - continues Bernacchi - has been a strong drive for the development of MTC in international markets. We are increasingly consolidating our presence in the United States, including through the training of technicians on site, and the opening last year of an area within the Fabio Perini site in Joinville, Brazil, allowed us not only to offer a dedicated after-sales service, but also to create the first line for MTC folded

tissue in South America".

MTC currently represents approximately 13% of Körber Group's Business Area Tissue sales, a turnover that the Covid emergency has not slowed down. In fact, Bernacchi concludes: "The worldwide emergency caused by coronavirus will increase the market for folded tissue paper products, due to the increased demand for disposable items, and I believe that this trend will continue for a long time. In addition, the lockdown has encouraged us to develop tools and devices that enable us to provide technical assistance and support to our customers at 360°, even remotely. Thanks to the use of tools that utilize virtual reality, it was possible for us not only to directly check the health status of our lines installed all over the world, and to intervene quickly in case of any issues, but also to assist customers in the machine installation and start-up phase".



Daniele Bernacchi, General Manager, MTC

Automotive supplier Zender Group sets up a mask production facility

“Nonwovens made of PP and PE for the filtration of viruses are new territory for us,” says Business Unit Manager Lena Guth, who has been with the company since April to establish the new field of personal protective equipment (PPE). But the company benefits here from its experience with textile automotive products, says Guth. 150 new employees have been hired since March to implement the ambitious plans. The company’s medium-term goal is the automated production of 800,000 to one million foldable duck masks with FFP2 protective filters per week. The company has invested heavily in this.

On 6 April 2020, Lower Saxony’s Prime Minister Stephan Weil visited Zender where Weil said he was very grateful to the company for making a major contribution to improving the supply situation. “The conversion of production is a wonderful example of the positive things that are possible in Corona times”. Zender intends to invest further in order to be able to fulfil another medium-term major order from the Federal Ministry of Health for 4 million flat surgical masks per week in addition to the foldable FFP2 masks.

To meet the high demand for the so-called FFP2 masks, Zender has designed its own model. After initial prototypes, the final design was quickly developed and approved. Due to the acute supply shortage, the Federal Ministry for Drugs and Medical Devices had issued a special approval procedure for respiratory protection masks in accordance with § 11 Paragraph 1 of the Medical Devices Act.

All outer seams, middle seams and the welding on of the elastic band are produced by using ultrasonic technology. The Zender mask is designed with two horizontal cross seams so that it can be unfolded to provide more room to breathe. In the medium term, the FFP2 respirator will be produced in an automatic flow production line. This means that every single process step such as welding several steps, folding over, fitting, gluing, assembling and marking will be fully automated “inline”.

In the first step, the masks were initially manufactured by hand on existing ultrasonic sewing machines. In the second stage,



Prime Minister of Lower Saxony Stephan Weil wearing the FFP2 mask developed by Zender during an on-site visit

the company Herrmann Ultraschall from Karlsbad supported the production after establishing contact shortly before Easter. With the help of four stand-alone ultrasonic welding machines an intermittent semi-automated production was set up. The two middle seams are now produced on these new machines. The accuracy of the seams and the speed are thus significantly increased.

Robin Mohr is head of the Tech Center North of Herrmann Ultraschall in Walsrode. He spent almost a whole day with Zender managing director Norbert Borner to demonstrate the ultrasonic basics and to create a concept for faster production. “I was able to negotiate with another customer and retrieve an already delivered machine to supply to Zender,” says Mohr, “and I removed a special welding tool, called a sonotrode, from my laboratory.” After the changeover, the output in the first week of May is 250,000 units, already a tenfold increase in the number of units compared to the start of production.

The third step will be a fully automated line, in order to quickly reach the final production figures. Zender will implement the line supported by Herrmann Ultraschall, who supply the necessary ultrasonic stations.

Reifenhäuser Reicofil converts its own meltblown test systems to supply material for up to 1 million respiratory masks every day

Due to the corona pandemic, the German machine and system manufacturer Reifenhäuser Reicofil temporarily converted two of its test systems and has been producing meltblown material for the production of urgently needed respiratory masks for a week in continuous operation. The systems installed in the technical center are normally used exclusively for research and development as well as customer trials. The company is responding to the current emergency in the supply of medical protective material.

Dr. Bernd Kunze, CEO of Reifenhäuser Reicofil, explains the decision as follows: "We have considered what contribution we can make in this crisis. Of course, this is mainly the fast delivery of meltblown systems to build up additional capacities. We have drastically reduced our delivery times here. But we also wanted to provide short-term support. Until the currently missing capacities have been built up, we are therefore stepping in with the test facilities in our technical center. Not to use this capacity now would be irresponsible from our point of view. "

The meltblown systems will be operated 24/7 in 4-shift operation until further notice. The daily amount produced in this way is sufficient for up to 1 million breathing masks. The test operation will be almost completely suspended

during this time. For Michael Maas, who is responsible for the test facility, this is not very problematic: "Due to the corona pandemic, the actually planned customer visits and tests have increasingly been canceled, so that facility capacities and personnel capacities have been freed up anyway. Converting the system from test to production operation makes double the sense. "

In the early days, the meltblown material from the non-woven technical center was sold to a Vietnamese manufacturer of respiratory masks, as no German or European producer could be found for the acceptance. Since mid-March, however, the technical center has been producing exclusively for German customers in order to strengthen local supplies during this crisis. The company is in close contact with associations, authorities and other companies.

Kunze explains that material for other medical protective clothing can also be produced at short notice: "We assume that protective suits, hoods, etc. will also become scarce. We are also happy to offer our help here. One of our pilot plants can produce the corresponding material, an SMS fleece, in the highest quality at short notice. In the medium term, however, we should also expand the real production capacities in Germany and Europe with new systems."



Reifenhäuser technical center breathing masks

Freudenberg starts mask production

Three Freudenberg Business Groups – Freudenberg Filtration Technologies, Freudenberg Home and Cleaning Solutions and Freudenberg Performance Materials – have combined their expertise in technical nonwovens, filter media and distribution. Together, the Freudenberg specialists have set up inhouse mask production in a very short space of time, initially delivering the needed volumes to Freudenberg sites. “Our objective was to fulfill our responsibility to our employees and society. We acted quickly, expanded our capacity and invested in production equipment for the manufacture of mouth-nose masks,” says Dr. Mohsen Sohi, CEO of the Freudenberg Group.

In addition to mask quality, the fair and needs-based distribution of the masks is important to Freudenberg. Limiting sales on the Vileda online shop to a maximum order of two boxes per online customer will help ensure fair distribution and guarantee a wide dispersion that will benefit as many people as possible in the time of crisis.

Mask production is located in Germany and has been up and running since late April. Freudenberg Home and Cleaning Solutions is selling the masks under the name “Collectex”. In contrast to the now common industrial and privately sewn cotton masks, the Freudenberg masks are made from a high quality, triple-layered filter medium.

This filter medium is made from a high-tech nonwoven, which is also manufactured in Germany. The materials are processed into masks in newly acquired production lines launched in

phases at Freudenberg Filtration Technologies – at first for the German market. Freudenberg is planning to expand capacity in the next few weeks to the point where roughly a million masks can be produced a day in four shifts around the clock seven days a week. The technology group will also continue to deliver media for the production of face masks to professional converters and existing customers.

Currently, efforts are also underway to produce masks in North America for the local market. Japan Vilene Company – a Freudenberg Business Group – has been producing masks for the Asian market, primarily Japan. However, these products are subject to individual countries’ COVID-19 export restrictions.



Nonwoven production

ALL YOU NEED IS FAMILY:

HOW ONE FAMILY BUSINESS
WENT FROM CENTRAL
AMERICA TO THE WORLD



Established in 1997 in Florida by the Corzo family, **South Florida Tissue Paper Company** has a long history in the paper industry that stretches to 1960s' Guatemala. A family business through and through, Juan Corzo II and his son are currently continuing the legacy of Juan Corzo I by focusing on paper conversion and expanding into the Asian market.

There's no place like home

Located in Miami Garden, South Florida, the headquarters' 9,300 square meters of space houses production, storage of raw materials and finished products, and the administrative offices. The South Florida Tissue Paper Co. specializes in bathroom tissue, paper towels, and industrial napkins for the wholesale market.

Specifically, the company's focus is paper tissue conversion; which comprises purchasing and cutting jumbo paper reels from U.S. paper mills into smaller products ready for the market. Depending on the desired end product, the manufacturing process may include embossing, printing, ply-bonding & other enhancements, as well as packaging and boxing, and shipping the finished products to the client. South Florida Tissue Paper Co. offers its customers both virgin and recycled paper.

The company's 65-employee-strong factory complex often runs 24 hours a day to meet production deadlines. The majority of its production is for private labels, but they also sell their own brands:

Excellence (bath, towel); Soft (bath); Elite (bath); and Tornado (bath, towel).

Once the storm was over...

The incredible story of how the Corzo family came to be a cornerstone of the South Florida paper scene is nothing short of heartbreaking. Back in Guatemala, the family used to own and operate large paper production facilities called Papelera International. Tragedy struck in 1996 when Juan Corzo I and his youngest son were kidnapped and held for ransom. The ordeal lasted for over a month and a half, culminating with the kidnappers cutting off a finger from the elder Corzo's left hand before releasing him once the ransom was paid, then holding the younger Corzo for an additional month until they were paid again.

“Building an impressive business based on hard work, honesty, and integrity”

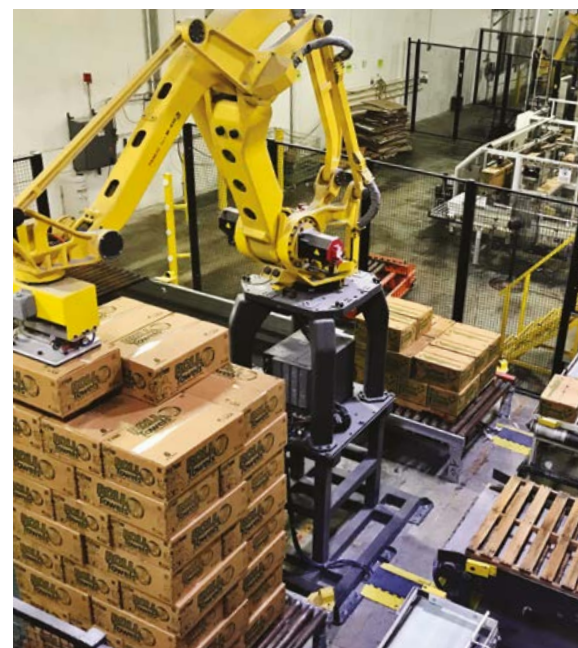
In 1997, the family decided to invest in the U.S. and established South Florida Tissue Paper with the same grit that made their name back in Central America. Indeed, the Corzo family made quite an impression on the sunshine state; “building an impressive business [...] based on hard work, honesty, and integrity” attested John David Perez, CEO of Miami-based Perez Trading Co. The latter is an internationally recognized marketer of printing & packaging papers and leaders of equipment & technology,

and one of the largest suppliers to the printing, graphic arts and paper industries in Latin America and the Caribbean. The Corzo business is currently “supplying both the U.S. and Latin American markets with tissue and towel converted products that compete with leading multinational brands,” confirmed Perez. And compete they do, with market competitor like Kimberly-Clark, SCA, and other large and mid-sized producers in the U.S. and Asia, the small family business are proving they are up to the challenge by making way for the talented younger family members.

You're going to need a bigger factory

South Florida Tissue Paper has been listed in INC. Magazine for three consecutive years (2016-17-18) among its 5,000 fastest-growing companies in the US. This can be attributed to “*greater emphasis on sales and [showing] customers that [they] offer a higher quality product at competitive prices,*” as stated by vice president Juan Corzo Jr. The third generation of his family to continue the legacy, Corzo Jr. started working full time at the company in 2013 as the national sales manager after he receives his degree in production management from The City University of New York.

Revenues grew briskly in the three years leading up to 2015 when they reached \$8.3 million. Sales figures almost tripled between 2013 and 2016 from USD 370,000 per month to about



USD 900,000 per month, respectively.

"The cheapest products come from Asia, but people are willing to pay for a superior product," reported Corzo Jr.

"We produce superior quality, embossed products for a wide range of customers in the U.S., Central America, and the Caribbean," remarked Juan Corzo II, the CEO of the family-owned business. While Corzo Jr. added that their products range from mid-priced to higher-end products all offered at competitive prices which distinguishes them from lower quality paper products available in the market at the same price points. *"Our customers are distributors of paper products, plus supermarket chains, educational institutions, commercial and industrial companies, airports and cruise lines"* confirmed Corzo II.

With established production and market in the Americas, the company is now looking into growing. The expansion to the international market does not come without its challenges; "competition with Asia is a major challenge," the CEO said. However, to ensure future growth, the family is planning to expand beyond Florida, by "investing in new production lines" such as Away from Home (AfH) products.

“ And in the rare case where there's a problem, they take care of it in person. They're an exceptional company **”**

A word from our customers

"We've been working with South Florida Tissue Paper for close to 15 years and we do a substantial amount of business with them," said Armando Caceres, owner of Medley-based **All Florida Paper**, which supplies products to a variety of sectors, including schools, food service, janitorial services, and healthcare. *"We buy our private label towels and tissue (PRO-BRANDS) from them as well as their own brands. We want a quality supplier and we need virgin fiber. The products must be at a strong price point and a certain quality, and they provide both for us. And in the rare case where there's a problem, they take care of it in person. They're an exceptional company."*

Javier Carbonell is the manager of **East Continental Supplies** in Hialeah, a full-service paper and janitorial supply company. *"We've been buying from them for more than three years and they supply our SWIFT private label brand towels and bath tissue. They have a decent price and can guarantee the quality that I can promote to customers,"* Carbonell stated. *"I especially want someone who reacts quickly when I have an increase in demand. They are local and that makes a difference. They can react faster than an out-of-state producer, especially when demand is strong in the winter."*

A fact that will surely serve them well during the 2020 COVID-19 quarantine and spike in toilet paper demand.

COMPANY FACTSHEET

Headquarters

5590 NW 163rd St.,
Miami Gardens

Founded in

Miami in 1997

Founder

Juan Enrique Corzo,
father of the current
CEO

Leadership

Juan Corzo, CEO,
and Juan Corzo Jr.,
vice president

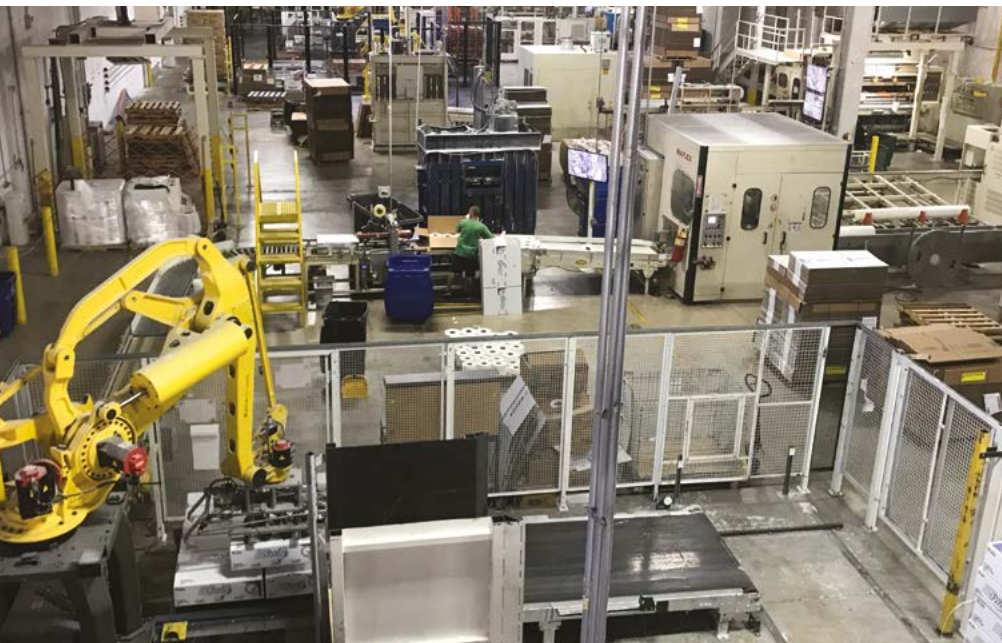
Employees

65,
many with more than
10 years of service

Owners

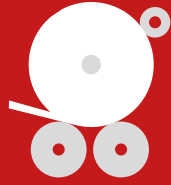
The Corzo family

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FANIS PAPAKOSTAS:

NOW IS THE TIME TO PROMOTE THE TISSUE INDUSTRY

Experienced tissue journalist Jonathan Roberts and IT's Tissue Chairperson Marco Dell'Oso present "IT's Tissue time" an interview series featuring experienced sector leaders discussing their vision in interesting and challenging open conversations. In this interview, "IT'S TISSUE" meets the chairperson of ETS to discuss the tissue sector response to the COVID19 pandemic and the upcoming 2021's event in Lucca, Tuscany.

Fanis Papakostas, Chairperson of European Tissue Symposium (ETS), brought his wealth of experience when he joined ETS in July 2017. With 30 years of experience across Europe in professional management and consulting, the tissue specialist held senior roles with Unilever, Beiersdorf, and Kimberly-Clark. In the following short but poignant talk with Roberts and Dell'Oso, Papakostas gives us a broad vision of possible upcoming scenarios, in terms of production, logistics, trends, and consumption.

Jonathan Roberts: I'm going to get straight into the topic: What people want to know at the moment is how COVID19 has changed society's attitude towards higher hygienic standards.

Fanis Papakostas: The coronavirus was an unfortunate global event which has affected all sorts of industries; very few industries have benefited from the pandemic and overall the world has been negatively affected.

On the other hand, the pandemic has changed people's perception regarding hygiene: The importance of hygiene is raised as it is becoming an essential part of our everyday life whether we are at home, away from home, or traveling. Anytime we're moving, we'll need to take care of ourselves better. Within this context, the tissue sector is playing an important role by providing an essential product needed to maintain a good level of hygiene.

I think tissue is becoming more of a necessity: people were used to getting the standard toilet paper for everyday use and then occasionally they'd get kitchen towels or facial tissue when they get a cold. Now, people are using kitchen towels either as hand towels or because they are sanitizing more often. People are reaching for whatever is convenient for them and tissues are fitting a key market need: fast and effective hygiene. That's why I think it's important for our industry to make sure that we expose the products as much as possible in our everyday life.

JR: Marco, let's think about the tissue industry's response to the pandemic. Obviously, there's been quite a strong

demand for tissue, the market has been very robust in that sense. But there have been different levels of demand, with more demand for some products than others. How would you say that the tissue industry has responded to that?

Marco Dell'Oso: I will respond with one word: "resilience". I feel it is not only me, but everybody in this industry has shown great interest in how resilient the tissue industry has proven to be, because it means that, as Fanis said, tissue is essential. Tissue is used throughout the day for several hygienic purposes. Despite differences between countries, at the end of the day, what we also noticed is how adaptable the tissue industry and its products can be.

During the COVID19 pandemic, certain products that were normally used in the away-from-home market, have been used by the consumer market in other ways because of their good quality and high specs.

Tissue products are now used more frequently, several times per day, and everywhere! The world is getting used to a new sort of normality; hotels, restaurants, and other places are opening again and they're all going to use more tissue.

JR: Fanis, how has ETS been managing that in this particular situation?

FP: That's a very good and timely question. It's true that until now ETS is focusing on promoting the benefits of tissue paper products and we're doing this using hygiene as a spearhead of all of our communications. Now, with this unfortunate pandemic, it is the first time that we need to amplify these communication plans and we need to coordinate better between different tissue supply chains. Improved communication will benefit all parties involved and ensure all are aligned.

To answer your question, we will keep the hygienic aspect of our products spearheading our campaigns while amplifying the message and focusing on the impacts.

JR: So, if anything, the pandemic has highlighted the benefits of tissue, but also highlighted the need to communicate those benefits.

FP: Absolutely! Now is the time to improve our communication for the benefit of the whole tissue industry, not only for the members of the ETS, but also machine manufacturers, suppliers, technology providers; in short all those who might benefit from our communication, and that's why I think it's important that we do something a little bit more substantial than in the past.

JR: I'm interested in the relationship between each ETS and "IT's Tissue"; particularly "IT's Tissue 2021". Can you tell me a little bit about that?

FP: This was an initiative proposed by some of our members a couple of years ago and we started a relationship between the two associations. At the moment, there's a learning curve as we are limited to some exchanges of events.

"IT's Time" has sponsored a couple of conferences with ETS and we're getting closer and I think we're on the right track. Together, we have implemented a couple of small projects and now we're proceeding with a bigger one which is helping us improve our communication flow, especially thanks to Marco who takes this alliance seriously, so we're hoping for the best.

MD: We've been closer to our tissue producers i.e.: those who build and design technology for the tissue industry whether it's tissue manufacturers, converters, packaging, factory automation, you name it!

I think it's a great opportunity to learn more and understand better what is the world of tomorrow. We're all

in this industry to grow, and I'm not only talking about Europe but the international industry as well. As we are all in this industry, we need to do everything we can to support its growth through campaigns, networking, partnerships, through whatever can be useful. Our industry performed strongly in the last few decades and I believe we have an interesting future ahead of us, we need to do everything we can to make our industry better everywhere in the world.

We look forward to having the European Tissue Symposium members and all those interested around the world in Lucca for the 4th edition of the "IT's Tissue" open house event, 7th to 11th of June, 2021. It will be a great opportunity to spend some time together after the challenging time we have all gone through.

Finally, I would like to thank Fanis for what he has been doing on the behalf of the European Tissue Symposium and the association. I believe ETS and IT's Tissue have a common vision for what needs to be done for the industry.

The "IT's Tissue" event is intended as a total immersion in the Italian production experience in the heart of country's "Tissue Valley". The unique open house event offers professionals in the tissue sector from around the world the opportunity to discover the best Italy can provide in terms of tissue technology, networking and vision for the future. For a whole week, the cities of Lucca, Bologna, Reggio Emilia and Lecco will host the crème-de-la-crème of what Italy can offer in a sector that has always been keen on investing in Research and Development.

IT's Tissue is the brainchild of twelve Italian companies, who in any other week of the year would be considered competitors! Intending to promote their sector and Italian production processes, the companies decided to establish the "Tissue Italy" network and create "IT's tissue". Alongside the 12 Network Members, the event also benefits from the involvement of high-level partners who share the standards of excellence and bring with them their years of expertise. The first edition of the event was held in 2013 and all three past events have surpassed industry expectations.

With interests running high to match the success of previous years, the 2021 event is an event not to be missed.

Will the pandemic affect

FLUFF PULP?

In the midst of the economic crisis that has followed the COVID-19 pandemic, with consumers severely restricted in their ability to consume, products that use fluff pulp are not really discretionary purchases and have seemed relatively unscathed. The consensus is that the COVID-19 pandemic will not seriously affect fluff pulp production, which depends on raw material, trees, and pulp mill capacity, according to a new Smithers report.

In 2020, global fluff pulp consumption was 6.49 million air-dried tons (ADt), valued at US\$6.23 billion. This is up from 5.43 million ADt, valued at US\$4.15 billion in 2015. Projections are for consumption to reach 7.86 million ADt, valued at US\$7.73 billion by 2025. Annual growth rates are 3.6 percent (volume) and 8.2 percent (value) for 2015–20 and are projected at 3.9 percent (volume) and 4.3 percent (value) for 2020–25. Figure 1 summarizes this data.

Market drivers and trends

The global megatrend toward reducing plastics waste should encourage expansion in these non-woven processes, at the expense of plastics-dependent spunlaid and other nonwovens, but probably not in large quantities until after 2025. There are no announced new airlaid lines in 2020 and it takes at least two years to build and ramp up to meaningful quantities; only Mondi has announced a new line producing fluff pulp using spunlace, starting up in 2021. Kimberly-Clark has not announced any new coform lines and no competitor has demonstrated the ability to produce coform

economically; this suggests that fluff pulp consumption in nonwovens will grow at only 3.8 percent for 2020–25, while the large hygiene end uses are projected to increase fluff consumption by 3.9 percent annually to 2025.

While some growth has been projected in nonwovens, it is conservative. It's possible that additional expansion will occur; it is likely that any increased growth will occur near the end of the 2020–25 period or even beyond.

Within the large hygiene end uses, the markets have different levels of maturity and growth (see Fig. 2.) Baby diapers and feminine hygiene pads are the most mature and are growing the slowest, at 2.0 percent and 3.3 percent respectively for 2020–25. Training pants and adult incontinence products are the least mature and growing fastest, at 4.2 percent and 6.1 percent respectively for 2020–25. While training pants growth is slowing from previously very high rates, adult incontinence is still accelerating in growth and is probably the brightest market for fluff pulp in 2020.

Key growth regions

Geographically, the fluff pulp market follows the hygiene and specific non-woven segments in growth and volume. As these markets are relatively mature in North America and Western Europe, these regions have the lowest growth for fluff pulp; Asia, South America, and Eastern Europe all have higher growth rates. Due to economic and political issues, these growth rates continue to vary, but the relative ranking by region remains the same.

For example, North America's economic recovery has slightly raised its projected growth rates, even though it is the most mature market for fluff pulp. China's economic slowdown, Brazil's recession, and Eastern Europe's continuing economic issues have all depressed the absolute growth rates in these regions.

In consumption, Asia is the largest volume region, but current economic issues have slowed growth to the point that both Eastern Europe and the Rest of the World (RoW) are projected to grow at a faster annual rate in air-dried tons consumed for 2020–25. RoW will grow faster in fluff pulp sales dollars for the same time period. Both of these regions are small consumers and are recovering from periods of slower growth. In 2015, Asia consumed 2.0 million ADt, valued at US\$1.4 billion; this increased to 2.6 million ADt, valued at US\$2.2 billion in 2020. Annual growth rates for 2015–20 were 5.2 percent (volume) and 8.9 percent (value). Projections for 2025 are consumption of 3.2 million ADt, valued at US\$2.9 billion, at growth rates of 4.4 percent (volume) and 5.8 percent (value).

Western Europe is the second largest consumer of fluff pulp in volume and value over 2015–25. The record high prices for fluff pulp appear to have ended in 2019, with some prices still retreating in early 2020. Value growth is expected to resume, although at a much more modest rate. In 2015, Western Europe consumed 1.2 million ADt, valued at US\$1.0 billion; this increased to 1.4 million ADt, valued at

US\$1.4 billion in 2020. Annual growth rates from 2015 through 2020 were 2.3 percent (volume) and 7.2 percent (value). Projections for 2025 are consumption of 1.6 million ADt, valued at US\$1.7 billion. Projected growth rates are 3.2 percent (volume) and 2.9 percent (value).

Fluff pulp mills

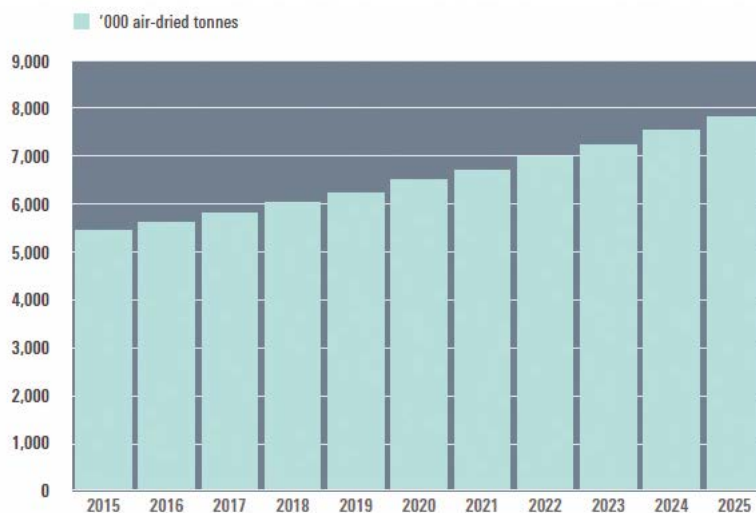
One factor to consider in fluff pulp production is that demand is often variable and unpredictable, while expansions must be planned far in advance. As supply and demand do not always align, pulp producers have a built-in “relief valve” in some mills, which is the ability to swing grades based on demand. These are often called swing mills.

Swing mills are able to swing between different pulp products (fluff, dissolving, papermaking) without a long downtime or added capital expense. In 2020, a total of eight swing mills were available, with a total capacity of 3.1 million ADt, representing about 41.5 percent of total fluff pulp capacity. Actual fluff pulp capacity from swing mills in 2020 is 2.5 million ADt, or 33.4 percent of fluff pulp capacity, up from 1.2 million ADt from five mills in 2015 or 19.2 percent of fluff pulp capacity.

Annual growth in fluff capacity from swing mills for 2015–20 was about 16.2 percent. By 2025, the same eight mills will be in production with fluff capacity of 3.0 million ADt, or 36.2 percent of projected total fluff pulp production. Annual projected growth for 2020–25 is 3.8 percent. This data represents expected fluff pulp production from mills that could theoretically swing to another pulp grade and make zero fluff pulp.

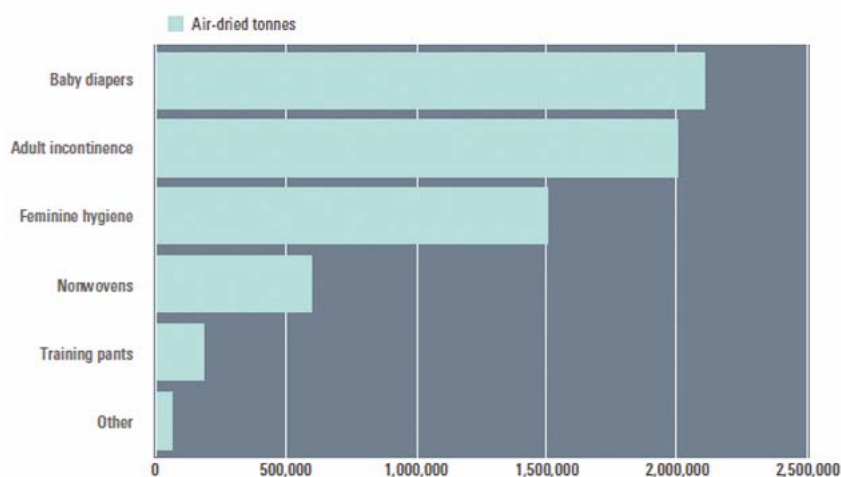
It is forecast that demand or consumption of fluff pulp is projected to grow much faster than supply or capacity based on announced and projected increases in capacity for 2020–25. Figure 3 shows this disparity. More information on The Future of Fluff Pulp, and other nonwoven reports from Smithers, are available; visit <https://www.smithers.com> to learn more.

This article appeared in TAPPI's Ahead of the Curve on July 1, 2020



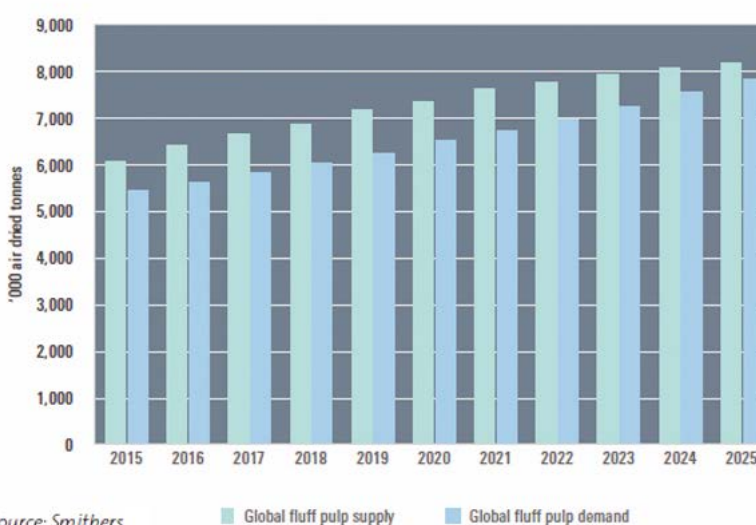
Source: Smithers

Figure 1: Global fluff pulp consumption, 2015-25 ('000 air-dried tonnes)



Source: Smithers

Figure 2: Global fluff pulp consumption by end use, 2020 (air-dried tonnes)



Source: Smithers

Figure 3: Global fluff pulp supply (capacity) and demand (consumption), 2015-25



WHY IMPROVING OEE IS A STRATEGIC ADVANTAGE FOR TISSUE MANUFACTURERS

Antonio Mosca

Head of Digital Transformation,
Fabio Perini S.p.A.

Since the 2009 recession, the Tissue sector has been growing between 3%-4% per year, mainly thanks to China. A benchmark of the Top 12 global tissue players' results, based on financial year 2018 annual reports, shows the worst results since 2013, with average EBIT margin dropped from 16.0% in 2017 to 12.5% in 2018.

Four companies reported a negative EBIT and none of them improved results in 2018 compared to 2017. On top of this, in 2018 the tissue industry suffered from high pulp prices, which affected margins a lot, since pulp accounts for more than two thirds of manufacturing costs of jumbo reels.

In this context, OEE concerns start. Let's see why: beginning of 2019, a survey made by StepChange Consulting among managers, decision makers and stakeholders from the European pulp, paper, tissue and packaging industries showed Industry 4.0 digitalization as the top trend, ranked at 75% among all the respondents. Guess what? Asking participants from the tissue industry about their expectations regarding the highest benefits from digitalization/ Industry 4.0 for their businesses,

78% named cost reduction: here OEE increase plays an important role.

High OEE as a competitive advantage

Very simple: who is able to cut inefficiencies will recover profitability. In other words, the higher the OEE the higher the EBIT.

Digital solutions are enablers for OEE increase: the potential impact on OEE due to digitalization is above 50%, according to various studies. E.g. Stepchange Consulting estimates for the Tissue market:

- Up to 50% in reducing the downtime
- 5-10% in increasing productivity
- 10-30% in maintenance cost reduction

Another study by McKinsey, specific for the Paper market (that includes Tissue) estimates a potential 5% OEE improvement with existing technologies that becomes 15% including future technologies.

Potential benefits

Measures done on some Tissue Customers show that 1 point per cent of OEE increase equals to around 4000€ impact on profit per month. In a pilot project aiming at optimize machines performances via a digitally-enabled process parameter AI-driven optimization, the result was up to 10% of output increase. With other Customers, when digital and humans' capabilities are mixed together the increase may rise up to 30-40%. That's precisely the concept behind our **Digital Tissue** and **Tissue Performance Center** propositions.

“1 point per cent of OEE increase equals to around 4000€ impact on profit per month.”

A mix of Digital Technologies and Humans' Know-how

In order to increase OEE, we have adopted a two-fold approach.

At first, we have started developing smart machines and smart lines. That means converting and packaging machines that allow downtime reduction, high quality standards and diversified production. An example above all is coming from “Constellation™”, a cutting-edge converting rewinder that grants high quality standards even with higher speeds, enables to eliminate critical regulations and allows more stability independently from the paper and the embossing variations.

Besides the machines, we are also busy proposing to our Customers specific TIPs (Technical Improvement Programs), aimed to address specific topics and contribute to increase the OEE. The “Automatic Blade Change” and the “Easy Reel Change” are some of the latest examples of the Technical Improvement Programs that enable downtime reduction (90% average time reduction for blade replacement; average of 90 seconds to change the paper reel) and safety increase.

The second dimension is to make our Customers' factories smarter, for example by empowering their operators when performing operations and maintenance activities. In this case we have developed a number of smart applications, better known as **Digital Tissue™**, able to support operators

monitor converting and packaging processes to streamline operations and maintenance autonomously or, if needed, to establish a remote connection to enable our experts to provide on-line support.

Furthermore, with the launch of our **Tissue Performance Center**, we have raised the bar of support we can provide to our Customers. The Tissue Performance Center is a next generation technologic environment where expert engineers, supported by data scientists, continuously register and analyze customers' data to supply information on the machines status and suggest improvements to maximize the OEE of the production lines. Thanks to the direct connection with the customers' machines, the Tissue Performance Center can now work proactively, not just reactively, as it used to in the past.

An outlook on future

At Fabio Perini we want to position ourselves as a reliable partner to help our Customers in keeping OEE at the optimal level. This implies to continue to design and build even smarter machines, and develop digital capabilities to make our Customers' Operations & Maintenance activities smarter.

Please note that “Optimal OEE” not necessarily means the highest OEE! In fact, the major enemy of indiscriminate OEE increase is over-capacity: as an example, in Western Europe we expect +400KTons capacity against an

expected +150KTons of consumption growth. So the business point is: under which circumstances a Tissue producer really need an OEE increase? To be able to identify such circumstances is the best way to approach Customers. That's why we have developed **a tool to predict production trends** in the Tissue market based upon actual data collected by our Customers' lines.

THE TISSUE QUALITY SYSTEM



A perfect match between quality
and efficiency of the whole tissue converting,
packaging and palletizing lines

Patent Pending
Quatis
QUALITY IN TISSUE

Patent Pending
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Patent Pending
Quatis
QUALITY IN TISSUE

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DISCOVER MORE



WORTH THE WEIGHT:

How to measure out AfH cheaters

Juan Corzo Jr. | South Florida Tissue Paper Company

An increasingly competitive market is putting pressure on manufacturers to stand out and pull in more customers. Unfortunately, some may resort to alternative methods to drive their prices down. Paper products made with less paper but still maintain the appearance of standard full-length products are commonly referred to in the industry as “cheater paper”.

Few publications tackle the rampant problem in the paper industry, especially the Away from Home (AfH) products, even fewer provide means to dodge the dubious items. The purpose of the following discussion is to provide efficient and quick methods to catch cheater items. With the company’s two decades plus worth of experience in the paper conversion industry, and my personal experience as the national sales manager at South Florida Tissue Paper Co., I will be including in the following analysis examples based on products we manufacture, i.e.: Jumbo Rolls Tissue, Center Pull towels, Hard Wound towels, Bathroom Tissue Rolls, and Multi-Fold Towels, Figure 1 illustrates the items.



Figure 1: Paper items considered in this article

How to cheat the scale?

Paper cheating can be carried out in various ways, a common method is to decrease the grammage or basis weight, i.e. the mass of a unit area of a product expressed in grams per square meter (GSM), compromising the integrity of the tissue. For instance, Jumbo Roll Tissue (JRT) rolls are typically 305 meters (1,000 feet) long, 22.9 cm (9 inches) diameter with 15 GSM grammage. However, some distributors are introducing to the market rolls between 259 meters (850 feet) and 168 meters (550 feet) long, with a 21.6 cm (8.5 inch) diameter, with a weight basis as low as 14.15 GSM.

Another popular method is to loosely wrap and fluff the reels to give the illusion of a bigger paper roll. Despite the discrepancy, distributors do not indicate the full description on the packaging, leaving the buyer with no means to accurately know the dimensions and quantity of paper in the product. Continuing the previous example of the JRT, a 22.9 cm-diameter (9 inches) 168-meter-long JRT would be simply labeled as a 22.9 cm (9 inches) JRT, leaving out the part about the shorter length. Contrary to standard items which are labeled with the full list of specification, i.e.: width, diameter, and length.

Unsurprisingly, the producers do not want to get caught, so they make it very hard to estimate the exact quantity of paper in the cheater item. Just because the length of a product or the number of sheets is given, that does not mean that the amount of paper it contains can be inferred right away; the basis weight of the paper plays a huge role in determining the amount of raw material in the product. Luckily, there are various methods and tools to measure products, some harder than others, the following section will touch further on these methods.

Tricks of the trade

Manipulating the appearance of a product starts with the manipulation of the tissue converting process. The paper machine (e.g.: Fourdrinier machine) is typically altered in various stages depending on how the producer is intending to cheat. Below are the stages where modifications can occur.

Embossing

During embossing, parent rolls unravel (Figure 2 – A) and go through the embossing unit (Figure 2 – B). As pressure from the top rubber roller presses against the steel roller on the bottom, the paper is marked with an embossing pattern giving the finished paper roll volume. Figure 4 is taken from the South Florida Tissue Paper Co. factories, it shows the top yellow rubber roller pushing down on the steel roller where the embossing pattern is.

Tension Control

Tension is exerted on the paper as it unrolls from the parent roll and right after it passes through the embossing unit (before the rider roll). Tension controls how tight the paper is running with the use of belts. See Figure 2- C and photo of the process from our factories in Figure 5.

Rider Roller

The rider roller controls the diameter of the finished roll (Figure 2 – D). The rider roll is controlled with pressure and can expand the roll as it is being wound with more or less paper. It allows the finished item to be rolled tight or loose with more or less paper. Figure 6 features the rider rolls from our factories; the upper steel roller on top of the paper log is where the rider roller is controlling the diameter of the paper log.

Lamination

Lamination has two different embossings (Figure 3– B1 & B2). One per each ply of paper and is embossed in the opposite direction on the nipple giving more volume when they meet. To keep the plies together, glue is applied for bonding and structural integrity (Figure 3– C). Figure 7 presents the lamination equipment at South Florida Tissue Paper Co.

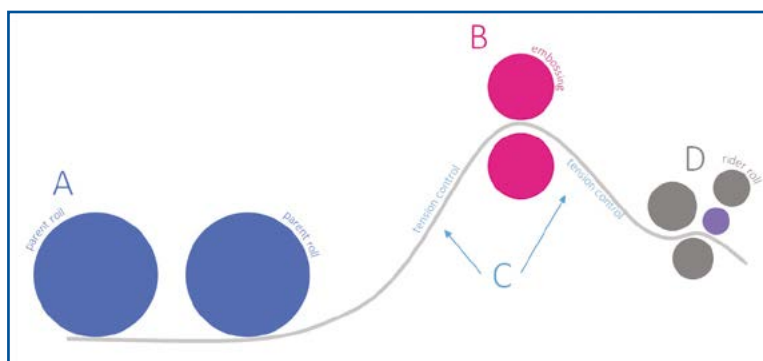


Figure 2: Simplification of the embossing process

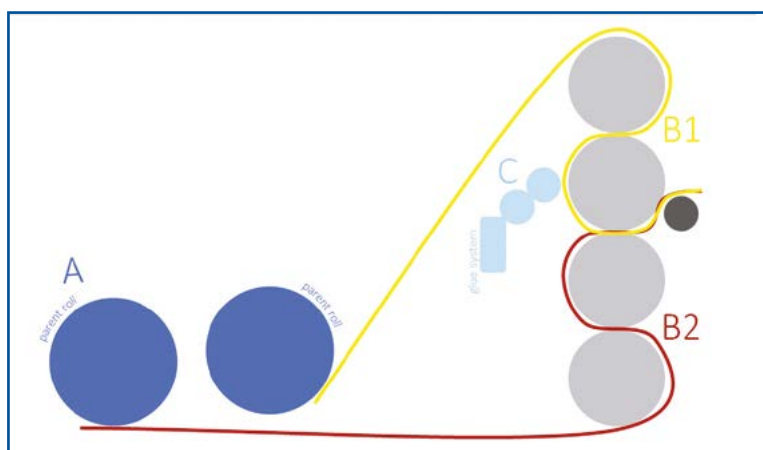


Figure 3: Simplification of the lamination process

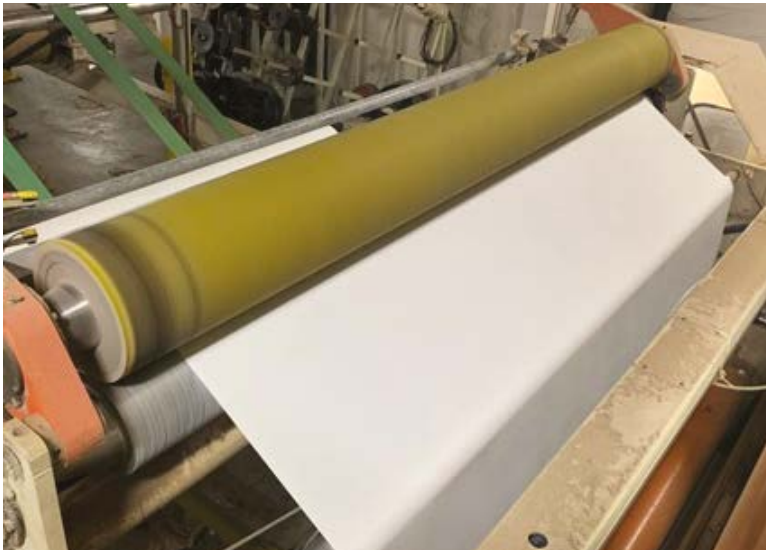


Figure 4: Embossing equipment



Figure 5: Tension control



Figure 6: Rider roller



Figure 7: Lamination

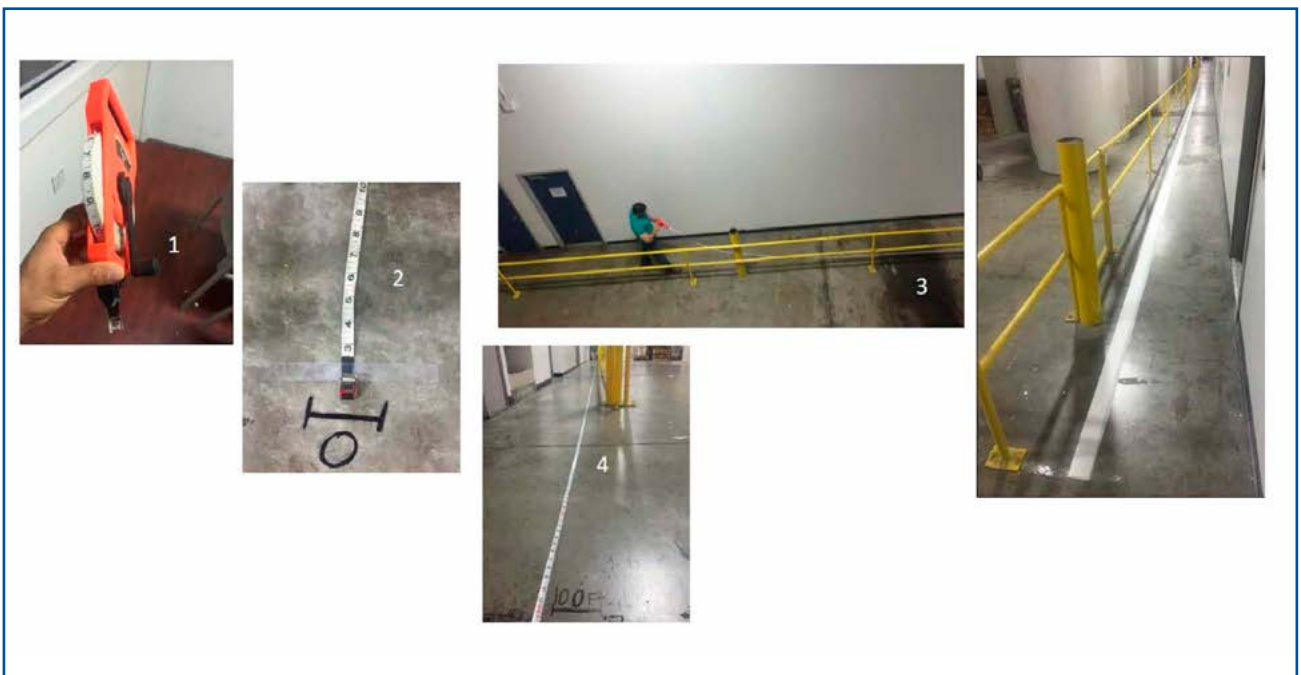


Figure 8: Method 1 for AfH measuring

How to measure the competition?

The first (and most basic) method to size AfH products is counting the sheets and measure the length. This is done by unrolling on the ground a finished roll of paper, whether tissue or towel and simply measuring the length.

The method requires a measuring tape and some lengthy clear space:

- About 30 meters (100 feet) of flat space should be cleared, a mark should be placed every 3 meters (10 feet) until the 30-meter final mark is reached.
- Then, the roll must be unwound and marked every 3 meters.
- Finally, the process should be repeated until the end of the roll is reached.

As you can imagine this method is time-consuming and not very practical, taking at least 15 to 20 minutes depending on long the product is and requiring quite a bit of space. Should you be dealing with an urgent customer and you want to determine how much paper there is this method will leave you hanging. Figure 8 shows the technique being tested by our crew at the factory.

The second method is shipping out a sample of the product to third-party laboratories. The process can cost between USD 100 and 300 and require waiting anywhere from 5 – 10 days to get the results back. Even though the results from this method are highly accurate, based on our experience, it has not been a very practical method: the cost and waiting time make this option slow and expensive.

The third possible option requires measuring the weight of the roll, its width, and the distance to the core. The latter two are measured in any case in order to determine whether the procured roll fits in the dispenser where the product will be placed. Weighing the roll will help determine how the competitor's product compares to yours. Putting this method into a

concrete example: A jumbo roll which reportedly measures 305 meters long (1,000 feet long), should hypothetically weigh and measure the same as the standard roll. The roll can be easily weighed using a kitchen scale, available for USD 15-20 on Amazon, Target, or Costco. Accordingly, the measurement can be done quickly, effectively, and economically. The following section provides further examples of how to implement this simple technique.

Market examples

A while back a customer requested a quotation for a jumbo roll from us. They wanted us to match, or better, the price of their current supplier of 305 m (1000 feet) long JRT. Knowing that this could be a long term client, we decided to send them a very competitive expecting that they would fall head over heels and sign with us immediately. Imagine our surprise when low and behold, they got back to us saying that our pricing was way off!

Curious at how the competitive JRT was being priced so low, we asked them to share a sample. While at their offices, we knew we did not want to test the client's patience while testing the competition's product. Armed with a kitchen scale and nothing else, we were delighted to find out that the sample JRT weighed 544 grams (1.2 lbs) only. As manufacturers, we know that a standard 305 m (1000 feet) JRT weighs in fact 771 grams (1.7 lbs), that's a staggering 40% difference in weight! No wonder our pricing was way off; we were charging for more paper with a misinformed customer who never measured the JRT. A customer asking for a product quotation without any details is no longer enough since there are too many cheater items in the market.

This is a typical situation; a lot of businesses carry so many different items that it is hard for them to really know the exact measurements of the thousands of products they stock. As manufacturers, we keep track of the

specifications of each product line but customers can easily be misinformed. This is so usual that we carry a price list with the corresponding weights at all times to be able to price compare at any moment's notice. In the end, cheater items will always be around, and it is our role to point out the discrepancy to the customer and leave the choice up to them as there are a lot of end-users out there that do not want to pay a fortune for a paper product.

In reality, the paper industry revolves around weight: manufacturers purchase waste and parent rolls by weight, not by length. We are in the business of buying weight, converting this weight, and selling it by weight.

The remainder of this paper is divided into five succinct sections that detail the weight list for each item presented in Figure 1.

The paper industry revolves around weight... We are in the business of buying weight, converting this weight, and selling it by weight

Jumbo Roll Tissue

A standard 2 ply Jumbo roll tissue is 305 meters (1,000 feet) long, 10.2 cm (4") wide, with a 22.9 cm (9") diameter and a basis weight of 15 GSM (9") per ply. A standard jumbo roll item will approximately weigh 771 grams (1.7 lbs). The first item in Table 1 is the standard JRT specifications, the rest of the table includes over 20 of the most popular cheater items we have encountered, highlighted in red are the norms that deviate from the standards. Chances are that we compete daily with one of these JRT, though we did leave out many others from less popular brands.

Table 1: Specifications of most popular JRT in the market *

Parameters	Roll Length (in meters)	Number of plies	Width (cm)	Diameter (cm)	Weight basis (in GSM)
Industry Standard	304.8	2 ply	10.2	22.9	15.0
Market Example	304.8	2 ply	8.4	22.9	15.0
	259.1	2 ply	8.4	22.9	15.0
	243.8	2 ply	8.4	22.9	15.0
	228.6	2 ply	8.4	22.9	15.0
	213.4	2 ply	8.4	22.9	15.0
	182.9	2 ply	8.4	21.6	15.0
	167.6	2 ply	8.4	21.6	15.0
	152.4	2 ply	8.4	21.6	15.0
	182.9	2 ply	8.4	22.9	15.0
	167.6	2 ply	8.4	22.9	15.0
	152.4	2 ply	8.4	22.9	15.0
	304.8	2 ply	8.9	22.9	15.0
	243.8	2 ply	8.4	22.9	19.5
	213.4	2 ply	8.4	22.9	19.5
	182.9	2 ply	8.4	21.8	19.5
	167.6	2 ply	8.4	21.8	19.5
	304.8	2 ply	8.4	22.9	14.2
	259.1	2 ply	8.4	22.9	14.2
	213.4	2 ply	8.4	22.9	14.2
	182.9	2 ply	8.4	21.6	14.2
	167.6	2 ply	8.4	21.6	14.2

Center-Pull (CP)

A standard 2 ply Center-pull is 201 meters (660 feet) long, 19.8 cm (7.8") wide, with a 20.3 cm (8") diameter and a basis weight of 17 GSM (10.5") per ply. The first item in Table 2 is the standard specifications, while the rest of the table includes over 15 of the most popular cheater items encountered, highlighted in red are the norms that deviate from the standards.

Table 2: Specifications of most popular Center Pull in the market

Parameters	Roll Length (in meters)	Number of plies	Width (cm)	Diameter (cm)	Weight basis (in GSM)
Industry Standard	201.2	2ply	19.8	20.3	17
Market Products	201.2	2 ply	19.8	20.3	17
	182.9	2 ply	19.8	20.3	17
	167.6	2 ply	19.8	20.3	17
	152.4	2 ply	19.8	20.3	17
	121.9	2 ply	19.8	20.3	17
	182.9	2 ply	19.8	20.3	21
	167.6	2 ply	19.8	20.3	21
	152.4	2 ply	19.8	20.3	21
	121.9	2 ply	19.8	20.3	21
	201.2	2 ply	19.8	20.3	17
	182.9	2 ply	19.8	20.3	17
	167.6	2 ply	19.8	20.3	17
	201.2	2 ply	19.8	20.3	17
	182.9	2 ply	19.8	20.3	17
	152.4	2 ply	19.8	20.3	17

* in red are the norms that deviate versus industry standards in blue

Hard Wound Towels (white & brown)

Single-ply Hard Wound Towels are typically 243.8 meters (800 feet) long, 19.8 cm (7.8") wide, with a weight basis equal to 36 GSM. Table 3 presents the standard specifications along with the six most popular cheater items in the market, highlighted in red are the norms that deviate from the standards.

Table 3: Specifications of most popular Hard Wound Towels in the market*

Parameters	Roll Length (in meters)	Number of plies	Width (cm)	Diameter (cm)	Weight basis (in GSM)
Industry Standard	243.8	1 ply	19.8	20.3	36
Market Products	243.8	1 ply	19.8	20.3	35.8
	243.8	1 ply	19.8	20.3	34.2
	243.8	1 ply	19.8	20.3	32.5
	228.6	1 ply	19.8	20.3	35.8
	228.6	1 ply	19.8	20.3	34.2
	228.6	1 ply	19.8	20.3	32.5

Bathroom Tissue (96 Count)

Bathroom tissue is typically two-ply, 500 sheets long, with each sheet square measuring 11.4 cm by 11.4 cm at a weight basis of 15 GSM. Table 4 presents the standard specifications along with the 16 most popular cheater items in the market, highlighted in red are the norms that deviate from the standards. Interestingly, highlighted in green are cheater item, though shorter in length of sheet and number of total sheets, that have a higher grammage, most likely to create a sturdier well-made sheet while still competing within the typical price range of the market.

Table 4: Specifications of most popular bathroom tissue in the market*

Parameters	Roll Length (in number of sheets)	Number of plies	Width (cm)	Length of Sheet (cm)	Weight basis (in GSM)
Industry Standard	500	2ply	11.4	11	15
Market Products	500	2 ply	11	10	15
	500	2 ply	11	9	15
	500	2 ply	10	8	15
	450	2 ply	11	10	15
	450	2 ply	11	9	15
	450	2 ply	10	8	15
	400	2 ply	11	10	15
	400	2 ply	11	9	15
	400	2 ply	10	8	15
	350	2 ply	11	10	15
	350	2 ply	11	9	15
	350	2 ply	10	8	15
	550	2 ply	11	10	15
	450	2 ply	11	9	21
	400	2 ply	11	8	21

Multi-Fold Towels

When it comes to Multi-Fold Towels, the standard product is usually single-ply 4000 square sheets (24 cm x 24 cm) with a weight basis of 36 GSM. Table 4 presents the standard specifications along with the 9 most popular cheater items in the market, highlighted in red are the norms that deviate from the standards.

Table 5: Specifications of most popular Multi-Fold Towels in the market*

Parameters	Number of sheets	Number of plies	Width (cm)	Length of Sheet (cm)	Weight basis (in GSM)
Industry Standard	4000	1ply	24	24	36
Market Products	4000	1 ply	24	23	36
	4000	1 ply	23	23	36
	4000	1 ply	23	23	34
	4000	1 ply	23	23	33
	4000	1 ply	23	23	36
	4000	1 ply	23	23	34
	4000	1 ply	23	23	33
	4000	1 ply	23	23	31
	3000	1 ply	23	23	33

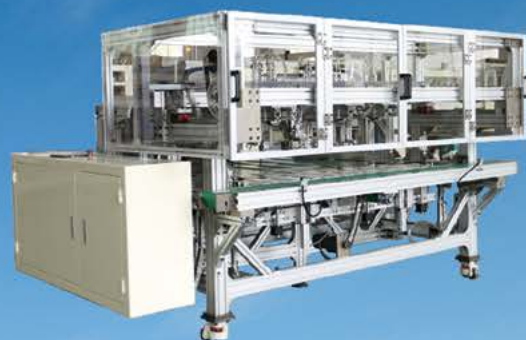
* in red are the norms that deviate versus industry standards in blue

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: 2200/2800 mm

Machine's speed: ≤200 m/min

Finished roll tissue diameter: φ70-150 mm



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OUR GOAL IS TO SIMPLIFY THE
CUSTOMER'S BUSINESS, BY
OPTIMIZING HIS WHOLE VALUE CHAIN



This day and age, marked by fast-paced innovation, high specialization, and rigid time constraints, **a partner to rely on** is the most important asset to any business. That's why our mission at GDM is not only to be a global player in the Disposable Hygiene market, but also to join forces with our customers as **a unique technological and consulting partner**, generating value in each and any aspects of their business through advanced services and programs.



MET MAGAZINE

From pre-sales advice, through production and supply of lines, to after-sales customer care, we can satisfy the most diverse and demanding application requirements, and therefore simplify the customer's value chain and provide a unique expertise to our clients.

Product Development, Cutting-edge Technology, Global-Presence-as-a-service - these are the three main areas where we provide support to our customers.

Product Development

First and foremost, we offer **Consultancy on the Full Value Chain**.

Our vision is to work shoulder to shoulder with our customers, to understand their specific needs and develop tailored solutions for them.

Through our **Product Development Program**, we simplify our customers' value chain not only in the form of premium-quality products, but also in terms of convenience and flexibility.

Everything starts with the product and goes back to the product: features, materials, sizes, production, technology, total cost of ownership - they are all instrumental to the development of the right product for the right market.

The Program follows advanced methodologies, including the **Lean Six Sigma one**, for ideas generation, and inquiries into the potential impact of product development.

What's more, we leverage a **strategic network of industry experts**, involving **raw material suppliers and technological partners**, as well as **a solid know-how**, consisting of **in-house product experts**, and world-wide **product benchmarking**.

Cutting-edge Technology

We make business easy by providing cutting-edge technology to our customers, in terms of:

- Converting
- Packaging
- End-of-Line Management
- Training & Service for Investment Protection

In terms of **Converting technology**, GDM's product portfolio covers all the Disposable Hygiene market segments, with focus on Baby Open Diapers and Pants, Adult Incontinence, Protective Underwear and Underpad.

Our **Packaging** portfolio for all the market segments has the capacity of **stacking and bagging hygiene disposable products up to 100 cycles per minute**, with an input speed up to 1200 ppm. GDM Packaging lines are characterized by:

- Quick count size and bag format change
- Easy raw materials set-up
- Ergonomic design and system integration

Speaking of **End of Line**, thanks to the synergies developed with our sister companies part of Coesia Group, we offer different service levels for the **management of handling, case packing, palletizing and bundling**.

ONE PROGRAM MANAGER

one partner for the full project



SIMPLIFICATION OF THE
MANUFACTURING OPERATIVE
MANAGEMENT OF A SINGLE SOURCE
SUPPLIER



STREAMLINE OF THE
CUSTOMER'S
COMPETENCIES

Our fully automated solutions guarantee a significant reduction of non-value adding equipment, and shorter distances between manufacturing, packaging and logistic areas: this way, operators can be further utilized, enabling an overview of the whole packaging process as well as **solutions for minimizing fork-lift** and the Automated Guided Vehicle (AGV) traffic available.

As far as **Training** is concerned, we can provide a thorough, extensive, structured training program at our headquarters and on site.

What's more, we offer **Asset Protection Services**, customized service contracts for newly supplied GDM machines, covering maintenance and production support activities.

Such a service contract has multiple advantages for the customer: first and foremost, **it makes asset financial management more efficient**, with fixed, predetermined costs and less time spent on purchasing spare parts. Moreover, it increases the machine availability and machine reliability, smoothing the learning curve for the customer's resources.

Global-Presence-as-a-service

As a global player in the Disposable Hygiene Market, we make business easy also in terms of distribution. Being present in 4 countries across the world and, most importantly, leveraging Coesia's global network, we are the perfect partner for any businesses that want to exploit all the opportunities of the global economy. Most importantly, our global presence makes it possible for us to **stay close to the customer wherever they are**. This way we can be a point of reference and truly join forces with the customer against the many challenges of today and tomorrow.

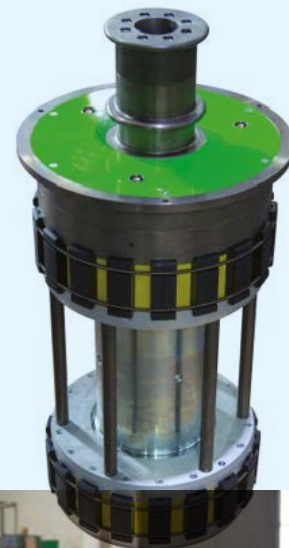
At GDM, our primary goal is to join forces with our customer to unlock their full potential. We do so by listening to their specific needs and working alongside them, leveraging our knowledge of the value chain, our technological expertise, and our global presence. Being close to the customer in any aspect, we can be a unique technological and consulting partner, as we build our business not on turnkey solutions, but on **single-partner integrated solutions tailored to any customer needs**.

**Your business is our business.
Let's join forces and unlock your full potential.**

Contact us at info.it@gdm-spa.it and stay up to date by following our LinkedIn account GDM Spa!



SVECOM'S PNEUMECANICAL CHUCKS WITH LEAVES - MOD. 714 MZL



Svecom-PE of Italy has designed and patented an innovative expandable chuck for unwinding reels of paper and tissue on cardboard cores with internal diameters from 200 to 600 mm. The chuck can be built with a female cone journal or a journal that is fitted with bearing housings. The chuck operates by a series of internal springs, preloaded, combined with levers that act on expanding sectors that generate a constant radial force that allows the chucks to adapt to any sagging or deformation of the core. Ensuring a positive grip and high torque transmission the complete length of insertion. This eliminates ant reel bounce and produces less core damage and machine downtime. Up until now, this has not been possible with any mechanical or pneumatic chucks on the market!

The 714MZL is designed to have up to 20 mm of expansion range between contracted and expanded diameter, make chuck insertion safe & easy even with slightly damaged or worn cores. As this 20 mm of expansion is mechanical, the chuck guarantees perfect self-centring and concentric running!

As the expansion of the elements is generated by preloaded thrust springs, the chuck is a fail-safe in design, the operation is intrinsically safe, as accidental contraction of the chuck is not possible when in operation.

To ensure continuous and optimal operation over time, ordinary cleaning and maintenance operations have been suitably simplified.



ADVANTAGES

Weight

The main advantage of this chuck compared to the technology known to date of a similar mechanical expandable chuck with manual operation is that it has drastically reduced its weight (approximately 130 kg compared to the 350 kg of the other chuck), this entails considerable advantages in terms of handling and energy efficiency.

Life of core and savings

The chuck extends the life of the cores by not damaging them during the unwinding phase of the reels.

The average life of cardboard cores usually varies from 1 cycle to 10 cycles and plastic cores from 50 to 100 cycles.

Thanks to this chuck the average life of cardboard cores exceeds 20/50 cycles and plastic cores exceed 100/200 cycles. So the use of the chuck allows to drastically decrease the cost of purchasing the cores.

Safety

The chuck eliminates accidents during insertion and extraction operations of the cores.

Due to the large expansion range, no tools or core preparation is required to make room for the chuck to be inserted.

Increase of production

The design of the chucks expanding section drastically reduces insertion and extraction times to a few seconds.

VISION

Winding and unwinding
perfect reels with
maximum efficiency

MISSION

Create user friendly,
innovative and highly
customizable winding
and unwinding systems:
expanding shafts,
chucks, safety chucks
and handling systems

VALUES

Honesty and integrity
Constant work for
customer satisfaction
Respect and recognition
of people's value

MOD. 640 PQL POPE

Pneumatic expanding
shaft with ledges
for non-stop machines



MOD. 714 MZ-L

Pneumehanical
chuck with leaves



MOD. 200

Single column
shaft puller



MOD. 700

Tilting table



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Handling tumultuous times in the tissue and towel market

Richard Cho | Global Marketing Director, Tissue and Towel | Solenis

Stay-at-home orders, social distancing guidelines and consumer panic buying have created major irregularities in tissue and towel market dynamics and consumption patterns. These challenges present opportunities for companies like Solenis to help customers adapt and respond.

The unfolding of the past several months has led to more unpredictability than any of us could have imagined. Stay-at-home orders, social distancing guidelines and consumer panic buying have created major irregularities in tissue and towel market dynamics and consumption patterns. These challenges also present a great opportunity to help tissue and towel producers adapt and respond to these sudden changes.

Pushing for productivity

As consumers around the world actively stockpiled supplies and household staple items, tissue makers were pushed to maximize production. In some countries, bath tissue sales increased by more than 50% during the early months of the pandemic. Though machine utilization rates spiked to nearly 100%, there were still difficulties meeting demand. For Solenis, being part of a larger effort to help customers increase output through higher production efficiency was an opportunity to transform our expertise and capabilities into tangible benefits

for our customers and, ultimately, for consumers who rely on their products every day. Our teams partnered with tissue makers across the globe to help optimize wet-end process and coating stability to improve productivity and paper quality. These efforts have helped multiple customers achieve record machine speeds to meet the unexpected surge in demand.

Beyond great chemistry and applications, many of our customers have also leveraged the Solenis OPTIX™ Applied Intelligence adaptive analytics platform to optimize their papermaking processes and meet quality targets. We have documented successes in reducing off-spec tissue production by helping customers significantly improve wet tensile target adherence and reduce variability.

Managing fiber supply challenges

Tissue made from recovered fiber accounts for approximately 30% of global production. Over the past few months, the recovered paper market

has experienced extreme volatility. An unprecedented surge in tissue and packaging board demand, combined with reductions in office wastepaper and old corrugated cardboard availability, has tightened supply.

This has forced some tissue makers to switch from higher quality office waste to lower quality alternatives, which can result in lower strength and increased wet-end contamination. We have collaborated with a number of these tissue manufacturers, helping them evaluate and modify their dry-strength and contaminant control solutions to overcome these challenges.

An increasing number of tissue makers are also producing tissue made from non-wood alternative fiber, such as bamboo, which is not related to the pandemic per se, but it is exacerbating some of the other challenges affecting the industry. Non-wood tissue accounts for approximately 10% of global tissue production. Though more common right now in the Asia Pacific market, non-wood tissue will continue to expand

across the other regions. In fact, several recently launched direct-to-consumer tissue brands are selling 100% bamboo tissue outside of Asia.

This type of tissue is seen as a more environmentally friendly and sustainable alternative. However, non-wood pulps typically contain higher levels of contaminants, such as silica and fines, which create Yankee coating challenges related to hardness, dusting and abrasiveness. Solenis has partnered with tissue makers to address challenges related to improving softness/hand feel, machine runnability and extending doctor blade life.

Preparing for new paper towel opportunities

In the wake of the global pandemic, there is a renewed emphasis on hand hygiene that has resulted in more hand washing and hand drying occasions.

Many establishments are also replacing hot and jet air dryers with paper towel dispensers in public restrooms. In addition, experts recommend cleaning and disinfecting high-touch surfaces at least once a day to minimize the risk of COVID-19 transmission via surface contact. All of these trends are driving an increase in paper towel usage and pushing manufacturers to enhance their product requirements.

Solenis is well-positioned to help tissue makers produce more — and higher quality — paper towels. Our extended network of field professionals and application experts collaborate directly with paper producers to customize solutions to their unique needs. At the same time, our global manufacturing footprint allows us to deliver a variety of wet- and dry-strength products efficiently and cost-effectively to any mill, anywhere in the world. Our

additives have enabled towel producers in all regions to enhance product quality in the areas of wet strength (for improved durability when used with disinfectants/cleaners), absorbency and scrubbability (to ensure the towel can clean a wider surface area).

The new “Normal”

Post-COVID-19, the world will likely operate very differently. Suppliers must evolve as much as the customers they serve, which is why Solenis is actively working to enhance, extend and redefine our capabilities to align with the changing world. We have an exciting pipeline of new activities planned for the next 12 months and look forward to helping producers navigate through these tumultuous times.

Optimize Chemistry (Kymene™)

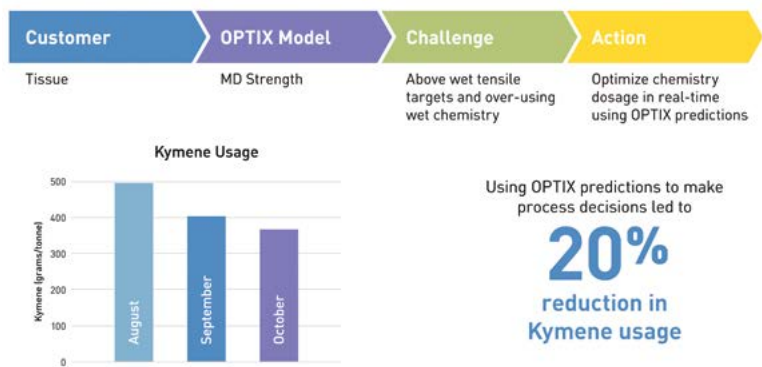


Figure 1: Solenis has helped tissue makers optimize wet-end process and coating stability to improve productivity and paper quality. In addition, many customers have leveraged the Solenis OPTIX™ Applied Intelligence adaptive analytics platform to optimize papermaking processes and meet quality targets.

	BEK	Acacia	NBSK	Bamboo
Width (µm)	15.2	16.2	28.4	15.4
% Fines	4.1	4.8	3.5	13.7
Length (mm)	0.80	0.79	2.39	1.75
Coarseness (mg/km)	70	63	140	90
Ash (%)	0.08	0.07	0.11	2.15
Silica (%)	<0.05	<0.05	<0.05	0.75
Extractives (%)	<0.1	0.4	0.5	0.9

Note:
BEK – Bleached Eucalyptus Kraft
NBSK – Northern Bleached Softwood Kraft
Testing carried out on dried pulp samples

Figure 2: Alternative-fiber tissue is seen as more environmentally friendly and sustainable. However, non-wood pulps typically contain higher levels of contaminants, such as silica and fines, which create Yankee coating challenges related to hardness, dusting and abrasiveness.



Solenis is a leading global producer of specialty chemicals for water-intensive industries, including the pulp, paper, oil and gas, petroleum refining, chemical processing, mining, biorefining, power and municipal markets. The company’s product portfolio includes a broad array of process, functional and water treatment chemistries as well as state-of-the-art monitoring and control systems. These technologies are used by customers to improve operational efficiencies, enhance product quality, protect plant assets and minimize environmental impact. Headquartered in Wilmington, Delaware, the company has 39 manufacturing facilities strategically located around the globe and employs a team of approximately 5,200 professionals in 120 countries across five continents. For additional information about Solenis, please visit www.solenis.com

TEDIM tissue and cleansing: story of excellence from South Italy



The productivity and structural solidity, together with the customer service, have been the most appreciated characteristics by Tedim Industry.

Born in 2006 as a producer of single-ply napkins and toilet paper, in a few years Tedim succeeded in the market, first in Campania and then in the whole South of Italy, supplanting national brands thanks to the excellent value for money of their products. The exponential growth of the business and the product range allowed the company to enter the detergency, home care and personal care sector in 2016. Tedim, who last year invested in three OMET TV 840 lines, has grown with an ambitious vision and an effective and forward-looking management: their story is told in this interview by Nunzio Moccia, Product Marketing Manager of the company.

Mr. Moccia, tell us about Tedim's growth path and its most important results.
Tedim was born in 2006 with the paper production and converting. At the beginning we had few machines, and we produced only single-ply napkins and toilet paper under the Corona brand. Gradually we expanded the range by introducing new brands: Inpiù, Expert, Volè for the paper unit; Dinamo, Lusso, Biancofà, Elle for the cleansing sector we entered in 2016.

What did allow such a rapid growth in rather difficult years for the general economy?
Good products and private labels. In 2006-2007 the market was dominated by a few national brands. We launched

our own brand in Campania, and we were the first. People liked it because we offered high quality and affordable prices compared to the national brands: our exponential growth was starting. This allowed big profit margins and we could increase production and create new brands.

From a commercial point of view, what's your positioning on the market?
We only sell in Italy and in particular in the South: Campania, Sicily, Puglia, Basilicata and Lazio. We have not yet reached other regions or countries: these are our next objectives.

How is your production organized today? What are your main product lines?
In recent years, the strong increase in production led us to purchase new machines and we had to move to a new plant of 20 thousand square meters in 2016. Now we are working with three OMET lines for single ply napkins (purchased last year), an OMET line for two-ply napkins, one industrial line and two lines of toilet paper/kitchen towels, one for rolls and another machine to make a particular napkin of half a meter size, with different packaging.

What reasons did led you to invest in several OMET lines?
We purchased 4 OMET lines in the last 3 years to satisfy our increase in production. Our older machines had limited performance. OMET lines have

an excellent daily productivity, at high speed.

What do you appreciate most about OMET brand?
Certainly the productivity, and the strong structure of the machines. Thanks to their features, we have been able to satisfy the growing market demand. With the two-ply napkins line we had to contact OMET service and they have always been effective and available, promptly solving any kind of problem. This is very important for a converter: we often talk about the product, but sometimes it is thanks to the service if we decide to continue a collaboration.

What growing prospects do you see for your company?
We certainly expect an increase of our presence on a national level. The goal is to develop our brands, by avoiding outsourcing and investing in communication and marketing to establish our most important brand, Corona, in other regions. In Campania and in the southern regions the market is quite saturated so we are expanding in other areas, first with the sales network and then with the production.

How do you face market changes and innovation?
We rely heavily on innovation. Corona has undergone a restyling of brand, packaging and quality of the product. Today some of our products have a

more delicate texture, they are more resistant and softer, and we have also focused on aesthetics to improve the visual impact. It is always a private label product, but we have invested heavily in quality.

How do you see the tissue sector at the moment and in the future?

I think that paper market hasn't any risk of crisis and instead is registering a growth that offers important opportunities to operators. The work is continuous and the market is solid, there are no swings that can prelude a crisis. But I see development opportunities outside our traditional territory.

OMET Group

OMET Group, with its companies OMET SRL, O-PAC and subsidiaries in China, Spain, United States and Czech Republic, is one of the most important and dynamic industrial organizations in Lombardy, northern Italy. The group employs global wide 600 people.

OMET SRL, founded in Lecco in 1963, is organized in 3 business units: Packaging Printing Machines (narrow and mid web printing machines), Tissue converting (machines for the production of napkins, paper towels and table mats) and Systems in Motion (production of special and standard ball bearings, trolleys, handling systems).

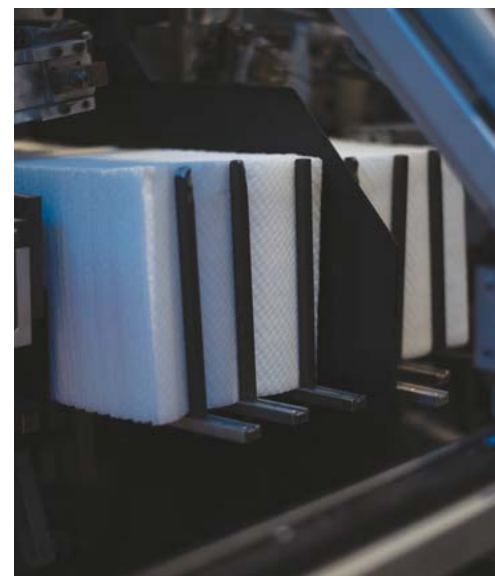
O-Pac, founded in 1989, works in partnership with leading brands in the cosmetic, pharmacy and distribution industries for the design and the production of wet-wipes for any purpose, as well as innovative solutions like gloves, pads and sheet masks. In 2014 O-PAC acquired NCT – New Cosmetic Technology, designing, creating and packaging derma-cosmetic products for OEM. NCT is specialized in the production of tailor-made items for face-body-hair treatment, babies hygiene and daily care, sun protection, oral care, 100% natural and organic lotions, sludge and thermal products. In February 2016 O-PAC signed a joint venture with Wet-Wipes international, located in Prague, Czech Republic, for production and sales of wet wipes with a strong presence in German and Balkan markets.



A detail of unwinding and embossing unit of the OMET TV 840 Line in production by Tedim Industry.



Tedim Industry has three OMET lines for the production of single-ply napkins and one OMET line for the production of two-ply napkins.



Tedim Industry napkins are distributed throughout Southern Italy.



The Corona brand of Tedim Industry is among the single-ply napkins most used in Southern Italy.

WIPES GLOBAL COMMITTEE

The newest venture within NETInc Division

With many advocates around the world, Wipes are still a controversial item for many, especially in terms of environmental impact. The Committee role includes among others: addressing the problems and misconceptions surrounding wipes usage; filling the knowledge to practice gap, by providing a scientific exchange platform; and more importantly, drive and make positive changes in the wipes specialized industry. Introducing the Wipes Global Committee

Why this committee?

Because wipes are becoming more and more an integral part of our life, with a wide spectrum of application whether industrial or personal.

The committee is starting with a distinguished team of international experts in the industry, out-of-the-box thinkers, to share their perspectives with regional/global exposure. It will make innovative and significant contributions to the wipes industry.

"I wish to have an engaging and productive committee works for the benefit of all TAPPI members. We aim to make this committee richer in itself, with a win-win situation for all".

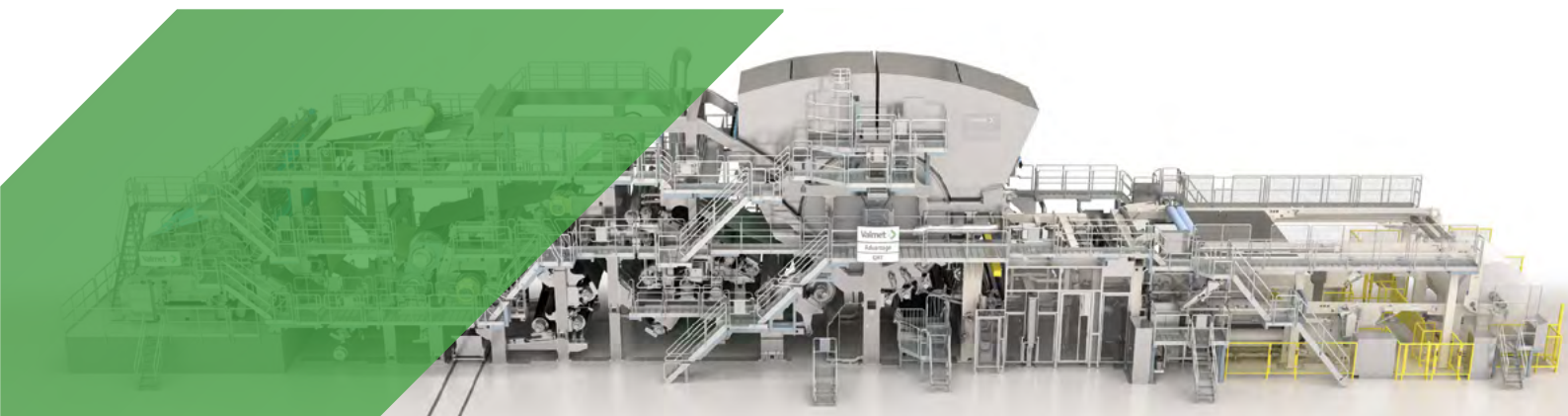
Bechara Michael Dib, chair of the Wipes Global Committee.

Calling for members to join

"We would like to call all of you; machine suppliers, raw material manufacturers, scientists, teachers, students, to join this committee..."

Bechara - Michael Dib
Wipes Global Committee Chair

Going forward in tissue with essential flexibility



To go forward and keep ahead of the game in the demanding world of tissue production you have to be able to move fast. Flexibility is now a necessity as switching grades and qualities has become the new reality in tissue production. Utilizing hybrid technology, Valmet's new range of Advantage NTT, QRT and eTAD tissue machines now have flexibility built in at their very heart and will allow you to swing between plain, textured and structured tissue products.

As well as unique flexibility, the Advantage NTT, QRT and eTAD range also gives excellent softness and high bulk using less energy and fiber per roll. Valmet Hybrids - for maximum flexibility in tissue making. Read more at valmet.com/hybrid

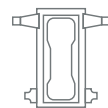


B6-W Red

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**QUICK RETURN
ON INVESTMENT**



**FROM BASIC
TO PREMIUM
PRODUCT**

B6-W Red. Boost your sales while we mind your production

Thanks to the process solutions **proven** on our best-selling B8-W Red, this machine delivers baby diapers with **cutting edge core technology** and the option for permanent channels. It enables an optimal mix and distribution of fluff and SAP while **minimizing raw material costs** thanks to Zero Waste on both front and rear wings and the capability to run low gsm raw material.

B6-W Red, running at an actual speed of **600 ppm**, is designed to last and ensures **high reliability** with **stable performances** and **no stops**. It is the answer to your needs of **maximized production** at an **optimized cost** supporting you and your growth ambitions in the Baby Diaper market.

Take advantage of all the benefits of a **single source supplier** from converting to primary packaging, combining it with our **stacker & bagger SB50 Go**.

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