



TOSCOTEC
A Voith company

PRESS BOOK

WHAT WE DO. Energy Efficiency in Tissue Making.

EDITION 6

PRESS BOOK

EDITION 6

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QUALITY? OPTIMA!



TOSCOTEC OPTIMA LINE

TOP TISSUE QUALITY AND WINDING EFFICIENCY.

The new OPTIMA line preserves the bulk and softness of the parent reels and boosts winding performance, thereby increasing the overall production efficiency.

Through an innovative combination of center wind assist control of the parent reels, unwinding web tensioning system and rewinding nip control system, OPTIMA rewinders preserve tissue quality and deliver optimal reel uniformity.

Top tissue quality meets high winding efficiency.

YOUR NEEDS, OUR SOLUTIONS.

OUR VALUES: THE "5P"

At Toscotec, we have our principles straight.

What inspires us in the cooperation with our customers and the execution of all our projects is a combination of five elements: we call it the "5P" value system and we conceive it in this precise order:

1P

PEOPLE

EVERYONE AT TOSCOTEC IS COMMITTED TO HELPING YOU ACHIEVE YOUR GOALS AND MAKING YOUR JOB EASIER.

Our technical people are focused on delivering what you ask, keeping an eye to what could be valuable to your processes in the future. We are flexible-minded, fast-thinkers and team workers. Customers hold a seat of honor on our team.

2P

PRODUCT

OUR TECHNOLOGY IS RELIABLE, ENERGY-EFFICIENT AND TAILOR-MADE TO YOUR NEEDS.

We provide advanced solutions for structured, textured and dry-crepe paper, and we assist you in the project planning, installation, training, start-up, and optimization. We make sure you always have our latest solutions, so that you can testify to the success of our products.

PARTNERSHIP

3P

WE LISTEN CAREFULLY, BECAUSE YOUR REQUESTS ARE OUR STARTING POINT.

When we get into a project and are required to make fast decisions, our partnership with you comes first, always.

Nothing is more important to us than achieving our common goal. This when we really demonstrate just how customer-dedicated we are, we work with you, not just for you.

PERFORMANCE

4P

WE PRIDE OURSELVES ON ACHIEVING THE MAXIMUM PRODUCTION AND THE BEST ENERGY SAVING RESULTS ON EVERY PROJECT WE DO.

When we engineer our machines, we focus on the productivity you aim for, the reduction of energy consumption, and operating costs you are required to achieve in today's manufacturing world. We make sure that you have all the tools to reach these targets.

PRICE

5P

WE PROVIDE STATE-OF-THE-ART TECHNOLOGY, SKILLED TECHNICAL TEAMS, AND RIGOROUS TIME MANAGEMENT FOR YOUR PROJECTS: high value at a fair price.

THE RELATIONSHIP WITH OUR CUSTOMERS IS VERY IMPORTANT TO US
AND WE ARE ALWAYS HAPPY TO RECEIVE FEEDBACK FROM THEM.
WE THOUGHT THE BEST INTRODUCTION WOULD BE THROUGH THEIR VOICES.

HERE IS WHAT THEY'RE SAYING ABOUT US.

“ ON TURNKEY SUPPLY & PROJECT MANAGEMENT

Essel Selüloz ve Kâğıt Sanayi Tic. A.Ş., Turkey

"We required the most energy-efficient and cutting-edge technology to support our growth. Considering also its strong expertise in turnkey projects, Toscotec proved to be the best choice for this operation."

*Abdurrahman Esen, shareholder
and General Manager.*

Arab Company for Paper Products Ltd., Syria.

"This project is a miracle. We implemented it during the conflict with Toscotec's support and it truly required all our efforts to get to today's result."

Hasan Badinjki, Chairman.

WEPA Group, Germany

"As in the past, we have great confidence in Toscotec and are convinced that we have the right partner with the latest technology on our side for this project. We continue to trust Toscotec for their commitment to our efficiency and product quality, their operational flexibility and their ability to fully meet our demands."

Martin Krengel, CEO.

Marutomi Engineering Co., Ltd., Japan

"Toscotec met our targets in terms of project management, delivery and execution."

Shinichi Kato, Vice President.

Cartiera Confalone, Italy


"We are pleased with the deep expertise of the Toscotec team, not only for developing a new custom made solution based on our requirements, but also for its proven capability in managing turnkey projects of this magnitude."

Gaetano Confalone, Sole Director.

Papertech, Spain

"We achieved our targets of production increase. Actually, we surpassed the targets we had originally set for this project. Toscotec's team managed the project schedule beautifully. Our machine downtime was executed exactly as planned. It was perfect!"

*David Rubio, General Manager of
Papertech and Luis Miguel Calvo,
Mill Manager.*



“ ON TECHNOLOGICAL INNOVATION AND ENERGY EFFICIENCY

Sofidel, Italy

“Technological innovation is key to our Group. I applaud the hard work and strong cooperation of Sofidel and Toscotec that made today's success possible.”

Luigi Lazzareschi, CEO.

WEPA Mainz, Germany

“The new hoods and the new air system work efficiently and deliver good results in terms of the uniformity of the profile as well as the gas and electricity consumption. We have significantly reduced our operating costs.”

Rene Martin, Production Manager PM1.

Essity Latin America, Mexico

“With our first TAD machine at Essity Mexico, we aim to increase the pace of innovation to deliver premium and more environmentally sound products to our customers and consumers in the region”.

Roberto Caballero, Vice-president Manufacturing.

César Iglesias Group, Dominican Republic

“We can confirm that our new steel Yankee dryer is delivering exceptional performances. We registered a 25% reduction of our overall thermal consumption including Yankee and Hoods. The TT SYD's drying capacity is so high that we could significantly decrease the hoods temperature, thereby saving a substantial amount of energy.”

Jesús Feris Ferrús, Technical Director.

Lucart Group, Italy

“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.”

Franco Pasquini, Chief Technology Officer.

EuroVast S.p.A., Italy

“PM5 meets our standards for quality and production, and our energy consumption targets.”

Vincenzo Romano, Owner.

Picknik Marketing Pty Ltd, South Africa

“Toscotec's machine will sustain our future growth by delivering the tissue quality and production efficiency we need to succeed in South Africa.”

Itzik Nikfard and Rafi Nikfard, Directors.

“ ON TAILOR-MADE DESIGN

Celupaper S.A., Argentina

“To us, Toscotec is a supplier who is committed to our business objectives and who truly understands our needs, to the extent that they develop custom-made technical solutions that fit our market.”

Luis Speranza, CEO.

Gulf Paper Manufacturing, Kuwait

“We felt they had a good understanding of our needs and factored those in effectively in planning and follow-up phases.”

Ghaleb Al Hadhrami, Gulf Paper Manufacturing Projects & Development Manager.

JSC "Yarpaper", Russia

“We selected Toscotec because of their understanding of our needs and development of the best technical solution in order to increase the process and drying efficiency of PM1.”

Sergey Dotsenko, Chairman of the Board of Directors.



BEST PRACTICES FOR TOSCOTEC STEEL YANKEE DRYER MAINTENANCE.

Maintenance managers and supervisors in tissue mills are required to work to budget and cut the costs of maintenance wherever possible. An efficient management of your TT SYD (Steel Yankee Dryer) helps reduce maintenance costs and avoiding the risk of emergency stops.

What to do to reduce the maintenance cost of your TT SYD:

1. PERIODIC STRUCTURAL CHECKS & NDE

Within 2 years after start-up and every 5 years after the first inspection, you should perform structural checks and NDE of the structural welds and connecting bolts of your Yankee, according the following Non Destructive Examination (NDE) methods: Magnetic Particle Inspection (MPI), single beam Ultrasonic Testing (UT) and automated ultrasonic testing (Phased Array - PA and Time Of Flight Diffraction - TOFD).

This will ensure compliance with the requirements of your local pressure

vessel regulations and insurance.

2. CHECK YOUR SYD INTERNALLY & THE CONDENSATE REMOVAL SYSTEM

Once a year, plan an internal inspection of your TT SYD and its condensate removal system.

Make sure you thoroughly clean the soda straws - one by one, from the bottom of the grooves - and their blocking clips. Check inside the straws if there is any magnetite: its build-up may be a sign of corrosion. This clean up will also ensure a uniform moisture profile on the paper. You should also check the sealing of the condensate removal pipes, to ensure maximum heat transfer efficiency.

3. CHECK THE STEAM & CONDENSATE SYSTEM'S WATER QUALITY

The chemical parameters of the boiler's water circuit and of the Yankee's condensate must remain within the recommended ranges. This will ensure the smooth operation of the boiler,



of the steam and condensate system and of the equipment and machinery integrated in this circuit, including your TT SYD and the instrumentation.

You should continuously monitor the key chemical parameters and make periodical tests, to ensure that the water quality is under control. Increase the frequency of the tests if you suspect there is a contamination in the steam and condensate system.

If the water quality is under control, you should see a thin and uniform layer of magnetite (black oxide, Fe₃O₄) that adheres tightly on the internal surfaces of your TT SYD. This layer creates a barrier to possible corrosion.

4. VISUAL CHECK OF THE METALIZED COATED SURFACE

Perform a visual inspection of the metalized surface on each shutdown of the paper machine. A scratch or localized damage on the metalized coating may significantly affect the runnability of your SYD. In this case, you should consider making a spot repair of the damage. If you see chatter marks, consider checking the doctor blades for vibration, the machine frame for vibration resonance, the chemical coating application and the process parameters in general for large variances from centerlines.

5. MEASURE THE ROUGHNESS OF THE METALIZED COATED SURFACE

Once a year, measure the roughness of the metalized coated surface. This will allow you to better understand the

status of the metallization, in terms of chemical coating, blades, etc. If you find an increasing porosity of the metalized coating, consider planning a polishing/grinding job, before it starts affecting paper quality.

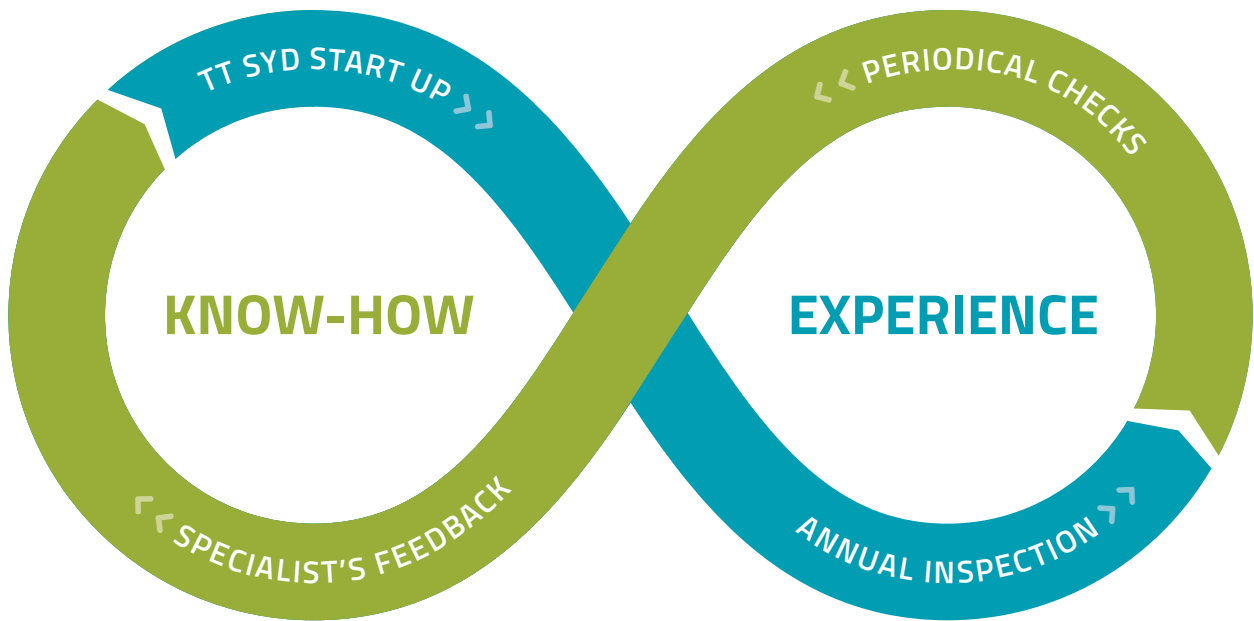
6. CHECK THE JOURNALS INSULATING SLEEVES

The insulating sleeves protect the bearings, especially during warm-up of the Yankee. Once a year, check if the insulation sleeves are working properly by using a contact thermometer to measure the temperature of the Yankee journals during production. Once every 5 years, perform a pressure test or dismantle the insulating sleeve pipes (depending on your type of sleeve), in order to verify the conditions and good functioning of the sleeves. Repair or replace any damaged part. It is good practice to replace the gaskets and insulation packing/wrap after 5 years of operation.

7. CHECK THE DECKLE INSULATION

At least once a year, during ordinary maintenance, check the tightening of the SYD deckle insulation screws. This is important to avoid any possible damage due to their fall and passage between the press and the Yankee, and it ensures a safe working area for the operators.

At least once a year, you should also thoroughly clean the deckle insulating panels. If the TT SYD is at room temperature, you may use high-pressure water to do so. This clean up eliminates the risk of possible damage



to the panels and to the components adjacent to the Yankee, due to build-up of fibers and chemicals.

8. CHECK THE DOCTOR BLADES SETTING

The doctor blades should be of the right length and mounted cantered in the middle, to make sure that they cover the Yankee’s surface completely during the oscillation of their support. Usually, the rule is $L_{BLADE} = LYD - L_{OSCILLATION}$.

If you use oscillating doctor blade holders, make sure that their movement is smooth and steady. Jerky movements may cause grooves or streaks on the metallization. This will eliminate the risk of damaging the surface of the metalized coating and will increase its lifetime.

9. CHECK THE STEAM ROTARY JOINTS

Check the wear level of the sealing graphite according to the indications of the supplier. If it exceeds the max allowable wear, replace the sealing

graphite during machine stop and with the steam rotary joints at room temperature.

10. CHECK THE TIR

Once a year, measure the TIR (Total Indicated Runout) of your TT SYD. Measure the TIR at grinding pressure and with the paper sheet off. You may also do this measurement in cold conditions, to get a rough indication of roundness status of your SYD. A TIR test helps you identifying possible problems and creating a database of reference records.

11. LONG-TERM SHUTDOWN OF TT SYD

In case of long-term shutdown, remove all the condensate inside the Yankee dryer, clean the heads/deckle insulation panels and remember to rotate the Yankee by 90° once every two days.

A TOSCOTEC SUPPLIED TISSUE MACHINE COMES ONLINE AT MARUTOMI MILL IN JAPAN.

The Marutomi Group started up a MODULO-PLUS ES tissue machine supplied by Toscotec at its Marutomi Paper's mill in Fuji city, Shizuoka, Japan. This is the first of two tissue lines ordered by the Japanese producer. The second line is scheduled for start-up in 2020 at Ono Paper's mill.

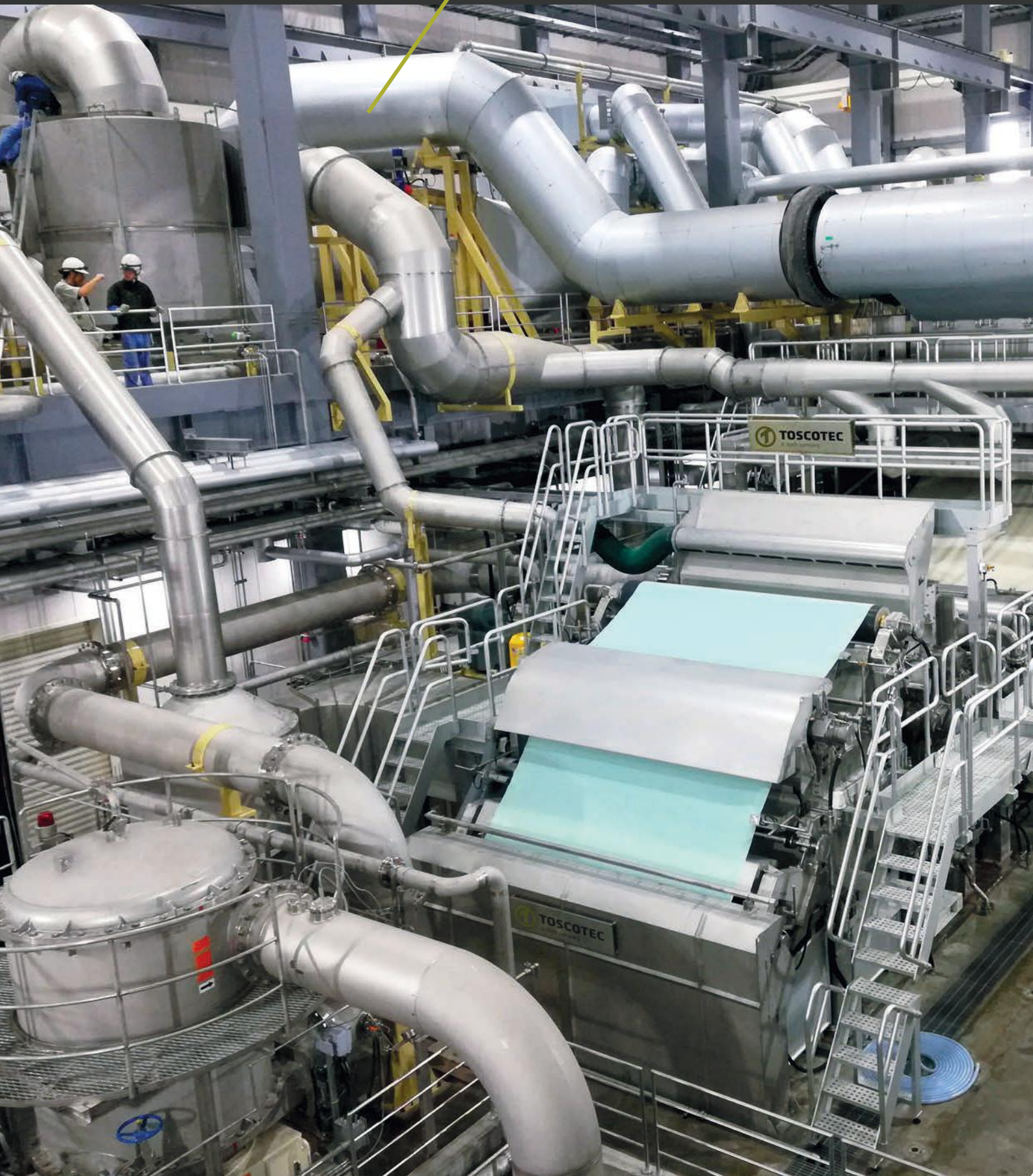
The MODULO-PLUS ES machine features a sheet width of 2,850 mm, an operating speed of 1,500 m/min and produces over 22,000 tpy of high quality tissue. It is equipped with TT NextPress, a second generation TT SYD, TT Hood-Duo steam-heated hoods and Toscotec's proprietary



Distributed Control System TT DCS, which was developed especially for this project on a Mitsubishi platform, in cooperation with the Japanese Corporation.

The scope also includes Toscotec's patented TT SAF (Short Approach Flow) system, dust and mist removal systems, an automatic shaft return system on the pope reel and an in-line shaft puller. The service package consists of the plant's detailed engineering, erection supervision, commissioning and start-up assistance.

With this new line, Toscotec's shoe press technology TT NextPress counts another reference in Asia, following various successful installations in Portugal, Italy, South Africa and China. Thanks to the flexible regulation of





its load and tilt, TT NextPress delivers highly consistent moisture across the sheet and a softer and bulkier tissue, while ensuring maximum energy efficiency in the drying process.

Mr. Shinichi Kato, Vice President of Marutomi Engineering Co., Ltd., says, "Toscotec met our targets in terms of project management, delivery and execution. Toscotec, with the collaboration of Kobayashi Engineering Works, supported us 100%, making adjustments and proactively helping the progress of the project. Both commissioning and start-up went very well. We are happy with the paper quality we are getting right after start-up and our team is already working with Toscotec to fine-tune all the key parameters. We expect great results on the energy efficiency of this production line".

Andrea Paganucci, Toscotec Project Manager, says, "The effective cooperation both with Marutomi team and Kobayashi Engineering Works, who supported the entire project, led to this successful outcome. Since the beginning of the installation, we proceeded according to schedule, like clockwork, towards our common objective".

CARTIERA CONFALONE
SELECTS TOSCOTEC
FOR THE TURNKEY
SUPPLY OF
A NEW ENERGY
EFFICIENT TISSUE
LINE.

Cartiera Confalone is the protagonist of an important investment that will see the construction of a new advanced production base in Montoro, Avellino, with leading-edge tissue technology. The plant includes an automated warehouse and one AHEAD 2.2 tissue line supplied by Toscotec on a turnkey basis. Cartiera Confalone's Montoro mill represents the biggest tissue investment in the south of Italy in the last twenty years and it will give new impetus to the local job market.

The start-up is scheduled for the fourth quarter of 2020. The new tissue line consists of one AHEAD 2.2 tissue machine, equipped with TT NextPress, a second generation TT SYD and gas-fired hoods designed with numerous stages of energy recovery. The sheet trim is 2,850 mm, the design speed is 2,200 m/min and the production capacity is over 35,000 tpy. The tissue line is dedicated to the production of toilet tissue, napkins and towels and it will process 100% pre-dried virgin pulp and converting broke.

The turnkey supply also includes the complete stock preparation, Toscotec's patented TT SAF (Short Approach Flow) ensuring a higher operation efficiency, the complete electrical and control system, including the DCS and the QCS and the dust and mist removal systems for the tissue machine. The vacuum plant, an automatic vibration monitoring system for the tissue machine and the hall ventilation system complete the supply.

The turnkey scope includes two newly designed OPTIMA 2200 slitter rewinders, which feature tension and nip control systems, and are equipped with a dedicated dust removal system. The core-assist drive system installed on the pope reel and the optimized nip control of the OPTIMA 2200 rewinders will ensure premium tissue quality, preserving the bulk and hand-feel of the finished product.

Toscotec will also provide the detailed mill engineering, the plant and the machine erection, commissioning and start-up supervision and training programs.

The relationship between Toscotec and Cartiera Confalone S.p.A. dates back to 1999 when Cartiera Confalone installed a MODULO-PLUS tissue machine at its mill in Maiori in the province of Salerno and then replaced its cast-iron Yankee with a TT SYD in 2013.





Gaetano Confalone, Sole Director of Cartiera Confalone, says, "This Toscotec line represents a key technological investment for our mill. We have been working with Toscotec for over 20 years, since the project of our first tissue line. We are pleased with the deep expertise of the Toscotec team, not only for developing a new custom made solution based on our requirements, but also for its proven capability in managing turnkey projects of this magnitude. This line will be key to the future growth of our brand."

Alessandro Mennucci, CEO of Toscotec, says, "We are honoured to have been selected for this turnkey operation by Cartiera Confalone. The contract includes our most advanced technology such as TT NextPress, and a very wide scope, from the stock preparation down to two slitter rewinder lines. This is where Toscotec is able to showcase its abilities as a true specialist for turnkey solutions."

The award of this turnkey contract is a testament to Toscotec's status as the leading supplier of turnkey solutions in the tissue market.



TOSCOTEC STRENGTHENS ITS LEADERSHIP OF THE ITALIAN TISSUE MARKET BASED ON FIVE YEAR RESULTS.

New tissue machine installations in Italy.

Toscotec has strengthened its leadership position in the Italian tissue market, based on new machine installations in the last five years. Since 2015, Toscotec has received five orders from Italian tissue producers for their paper mills located in Italy. They include two complete tissue lines for Eurovast's Cartiera della Basilica. One line replaced an older machine and has been in operations since 2015 at its Bagni di Lucca mill. The other line is been installed at Eurovast Botticino mill and is currently scheduled to start production in the last quarter of 2019.

In 2017, a Toscotec-supplied tissue machine came online at a confidential paper mill in the South of Italy.

In November 2018, Lucart fired up an AHEAD-2.0S tissue line at its Porcari mill.

This year, Toscotec received a major turnkey supply order from Cartiera Confalone S.p.A., who is scheduled to start up a new AHEAD 2.2 tissue line in 2020. The project includes the entire tissue making line from the pulper conveyor belts to two OPTIMA 2200 slitter rewinders.

Toscotec's energy efficient technology has won over the Italian tissue market and raised the bar on performance and reliability, by introducing TT NextPress on Lucart's AHEAD-2.0S machine, which represents the first shoe press ever installed in Italy.

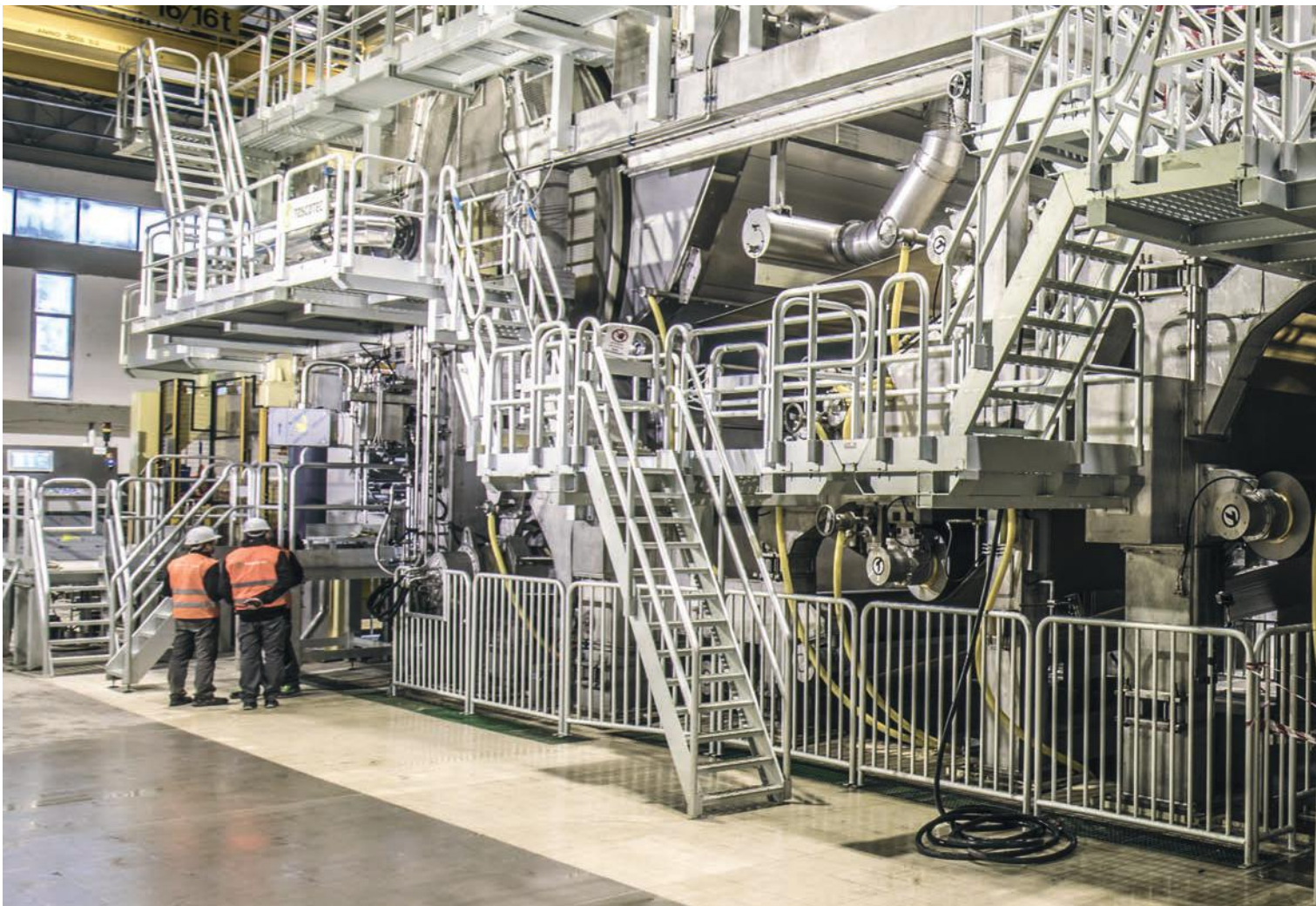
Cooperation with Italy-based International Groups.

Apart from new installations in Italy, Toscotec also cooperates with International groups headquartered in Italy on a number of projects outside of the Italian territory. In 2018, it started a close cooperation with the Sofidel Group on their new Oklahoma plant, for the turnkey supply of two AHEAD-2.0L tissue lines currently undergoing erection. In 2017, Toscotec rebuilt on a turnkey basis PM10 of Lucart Laval sur Vologne mill in France, by modifying the wire and felt sections and supplying a new TT SYD and the steam & condensate system.

Foreign tissue manufacturers in Italy.

The strong partnership between Toscotec and the German Wepa Group also led to two important rebuilding projects in Italy, at Wepa Lucca and Wepa Cassino mills. The former involved the rebuild into crescent former of an old machine, followed by a speed-up upgrade. The latter was carried out in three steps, from the rebuild into crescent former in 2009 to the supply of a new TT Headbox and TT SYD and the rebuild of the stock preparation system in 2015.

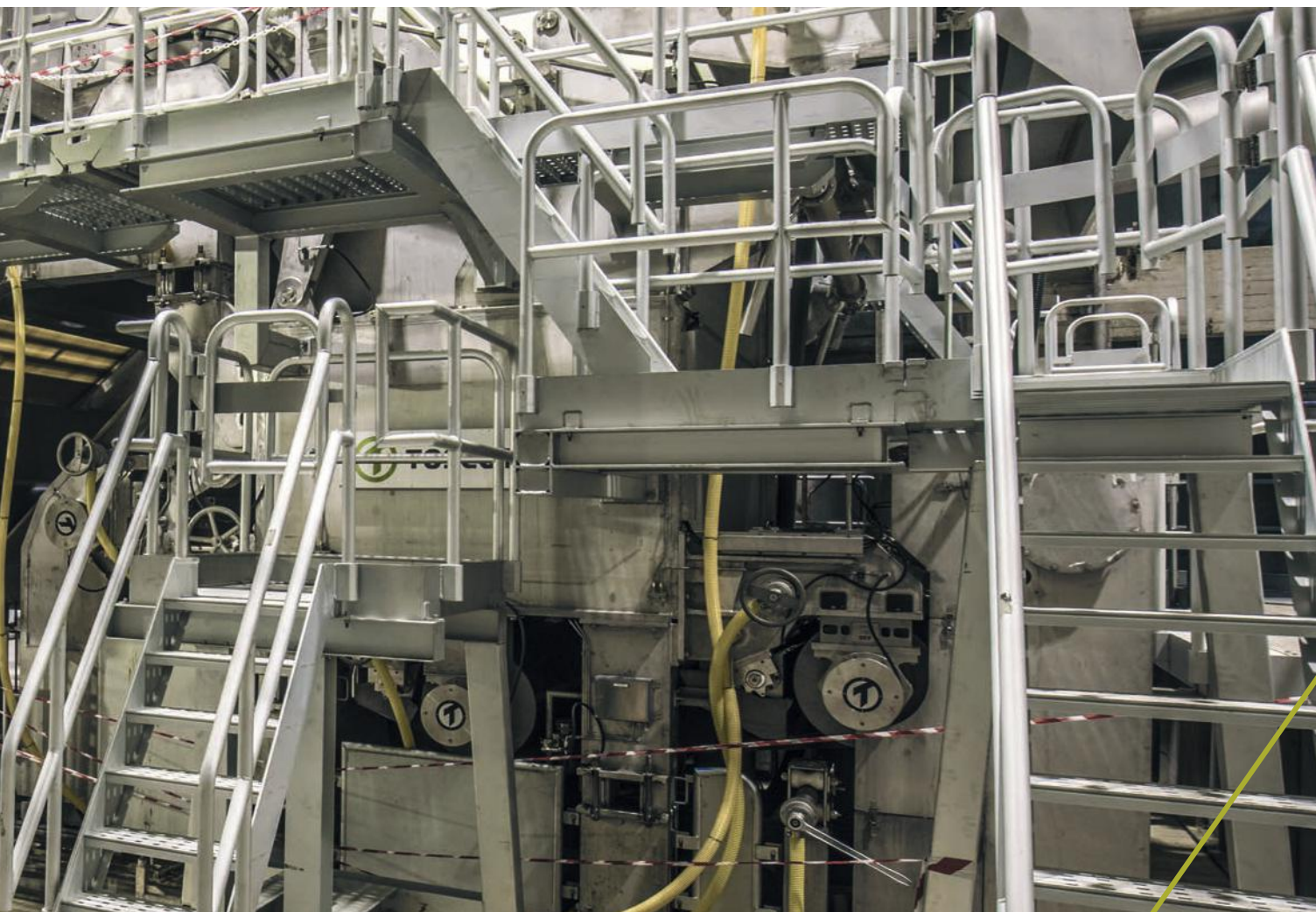
The high degree of customization of Toscotec's tissue plants represents an



invaluable source of success on the Italian as well as international markets. In recent years, Toscotec has made significant investments to equip itself with the most advanced engineering tools and to support the high level of specialization of its technical department, in order to respond to the market increasingly greater request for tailor-made plants.

The fact that tissue producers such as Eurovast, Lucart and others have repeatedly selected Toscotec for the supply of their new tissue lines and rebuilds is proof that its technology is recognized by the Italian tissue market

as well established and highly reliable. Based on these results, Toscotec consolidated its position as market leader for the design and supply of tissue machinery in Italy.



TOSCOTEC CHOSEN FOR AN EXTENSIVE REBUILD OF PM1 AT JSC "YARPPAPER", RUSSIA.

JSC "Yarpaper" selected Toscotec for a major rebuild of its paper machine at Yaroslavl mill, northeast of Moscow, Russia. PM1 has a wire sheet width of 2,830 mm, produces test liner and fluting in the range of 100 to 150 gsm, using 100% waste paper.

Toscotec will supply the approach flow system, including screens, fan pumps, TT Headbox-H fitted with dilution control system and a newly designed Fourdrinier make up. The sheet path in the press section will be optimized, including the sheet transfer to the dryer section.

Toscotec will supply a new complete dryer section, with 35 TT SteelDryers designed to operate at 10 barg, along with framing, canvas rolls, doctors, stabilization boxes, stretchers, guiding and tail threading system and the mechanical drives for the entire paper machine.

The scope also includes the engineering, erection supervision, commissioning, start-up assistance and training.

This major rebuilding project will modify the entire paper machine, including the approach flow system and sets ambitious targets of production increase and quality improvement, maintaining the same PM length, thereby reducing the impact on the existing building.

Chairman of the Board of Directors of JSC "Yarpaper", Mr. Sergey Dotsenko, says, "This operation represents a strategic investment aimed to improve product quality, increase our production output and efficiency. As an FSC-certified manufacturer, we are focused on the sustainability of our operations. After the joint evaluation of the project, we selected Toscotec because of their understanding of our needs and development of the best technical solution in order to increase the process and drying efficiency of PM1. This is in step with boosting its capacity and expanding the product range from 90 to 160 gsm. The rebuild will be in line with our environmental standards."

Toscotec's Head of Sales Application

Gian Luca Fornesi says, "This is our first important paper & board project in Russia. Thanks to the support of Pulp & Paper Processes, Ltd., we are glad to enter the Russian market with such a recognised producer and such an extensive rebuild, which spans from the approach flow to the wet section of the paper machine, down to the dryer section. Most sections will be newly designed, or extensively rebuilt, to achieve a substantial production increase. During the project evaluation, we assessed a number of possible solutions for the customer and we are confident that our rebuild will eliminate the main bottlenecks of this production line."

The delivery is scheduled for August 2020.



PRESS RELEASE | 24TH OCTOBER 2019

TOSCOTEC CONSOLIDATES PRESENCE IN JAPAN

WITH NEW TT SYD START-UP
AT TOYO PAPER.

The Japanese tissue manufacturer Toyo Paper started up a second generation TT SYD at its Shikokuchuo paper mill, Ehime prefecture, Japan.

This is Toscotec's sixth TT SYD to be installed in Japan, following previous installations at the Marutomi Group, Oji Group and Nishinohon Eizai paper mill.



Gabriele Martinelli, Toscotec Sales Manager Asia & Pacific, says: "It is very important for us that such a high-tech market as Japan welcomes our technology, starting from TT SYD. We are happy to see another successful start-up here at Toyo Paper and confident that this TT SYD will exceed their expectations of energy efficiency. This confirms Toscotec's presence in the Japanese market, where we are recognized as a first-rate manufacturer of advanced tissue technology".

TT SYD's superior drying capacity makes it the most competitive choice in the market. In order to guarantee increasingly higher performances, Toscotec continuously upgrades the design of its TT SYD, by optimizing its geometry and heat transfer efficiency.



TOSCOTEC ENTERS THE CARIBBEAN MARKET
WITH A NEW
TT SYD FOR CÉSAR
IGLESIAS, SANTO
DOMINGO.

The Dominican Group César Iglesias successfully started up a second generation TT SYD at its paper mill in Santo Domingo. Following start-up, the mill has observed a marked increase of production capacity and important energy savings in the drying section.

Thanks to continuous R&D on Toscotec's Steel Yankee Dryer, the height, width and pitch of the internal ribs as well as the shell thickness achieved an optimal geometry, which guarantees a highly efficient heat transfer. The supply also includes the steam and condensate system, the Yankee coating spray boom, a new forming roll, as well as the complete overhaul service of press rolls.

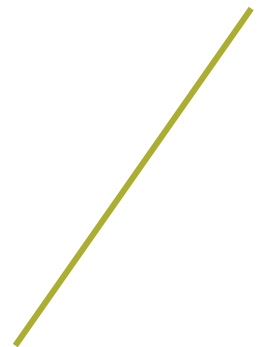
In response to the customer's request for the fastest possible delivery, Toscotec further refined the production time and was able to deliver the Steel Yankee Dryer in record time. Since the opening of Massa Technology Lab in 2016, an integrated plant dedicated to the production of Steel Yankee Dryers, Toscotec has sought to optimize the manufacturing process of its TT SYD and shortened their delivery period.

Jesús Feris Ferrús, César Iglesias Technical Director, says, "When we selected the supplier for this investment, we thought that the TT SYD's superior performance and short delivery time made it the most competitive choice in the market. This was our first cooperation with Toscotec and we have been positively

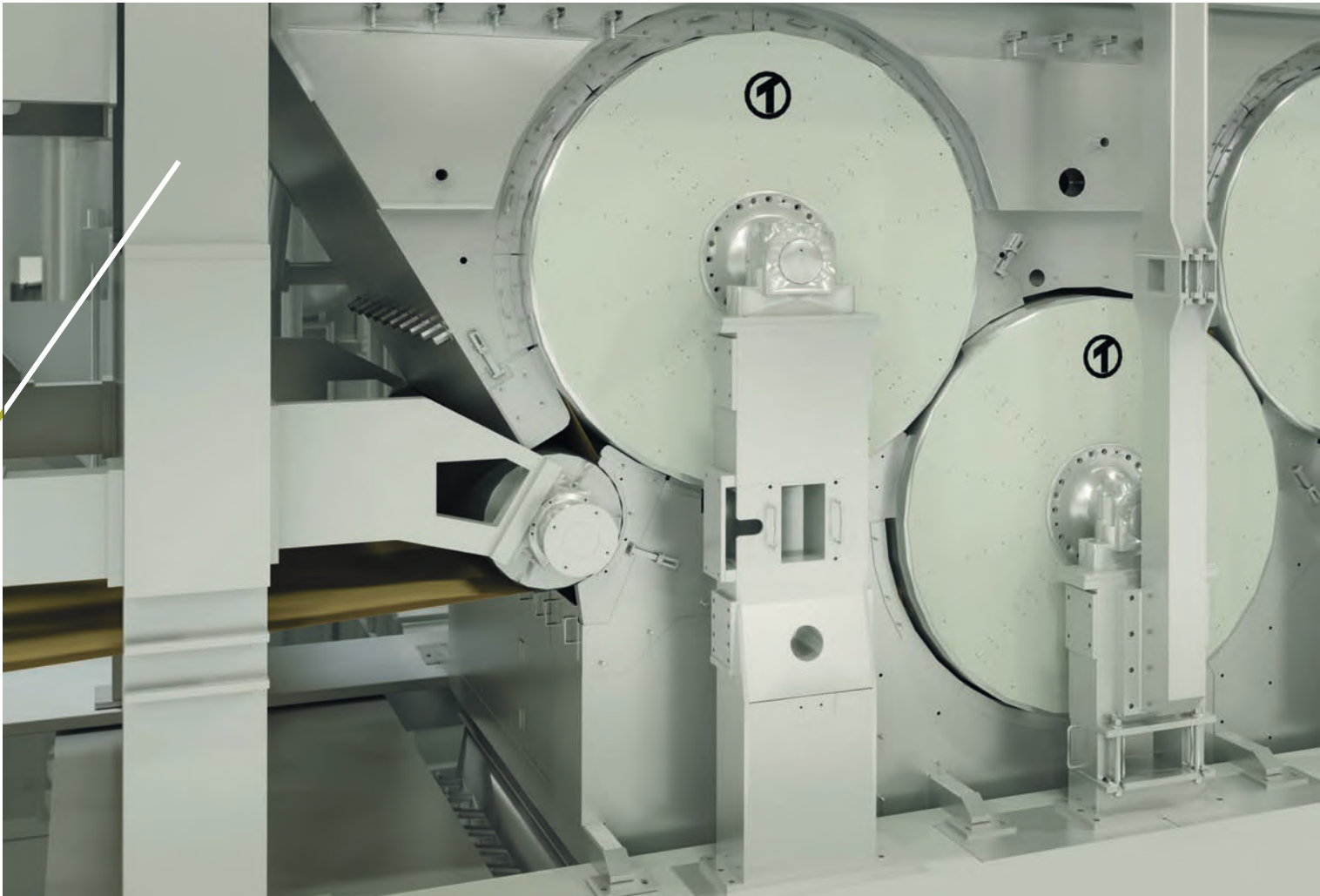
impressed by their technical and project management team. The energy efficiency of the TT SYD will allow us to reduce the manufacturing cost of our tissue line and give us a competitive advantage in the market."

Simone Pieruccini, Toscotec's Pressure Vessel Technical Manager, says, "As soon as we understood the customer's need for a fast delivery, we rearranged the production schedule, in order to reduce the construction time as much as we could. From a technical point of view, we were in tune with César Iglesias' team, which made our first cooperation very easy for everybody."

The César Iglesias Group thus enters the tissue market, starting the production and converting of toilet tissue, paper towels and napkins.

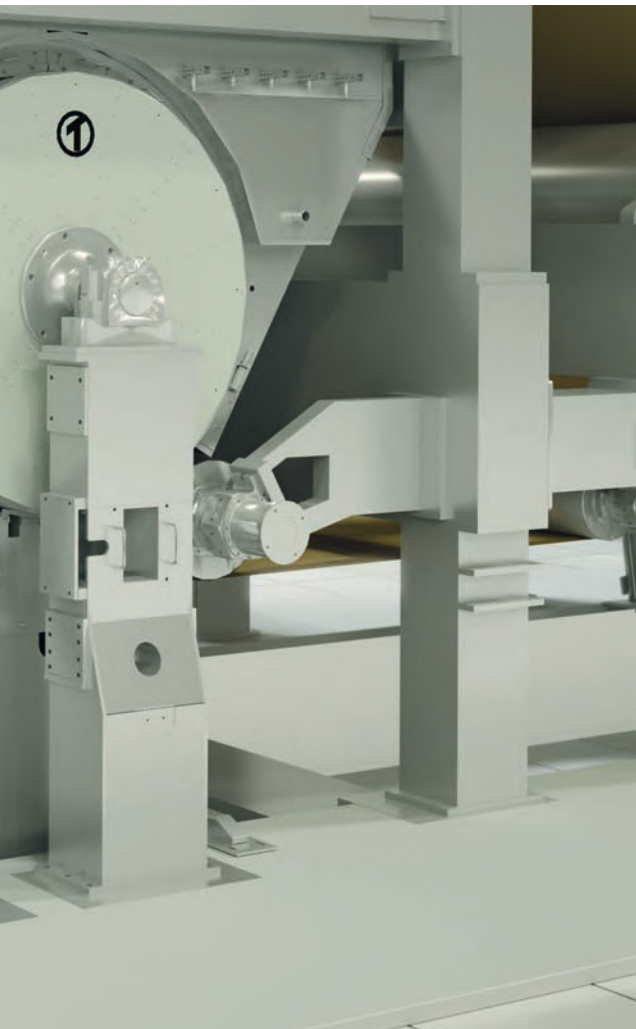


INTERVIEW WITH PAOLO RAFFAELLI, TOSCOTEC TECHNICAL DIRECTOR.



1- What new paper machine technologies have been ground breaking during 2019? And what can the industry expect to see in 2020?

"Toscotec is currently developing its low-energy TAD technology, which we expect to make available on the market by 2020. As we know, the tissue market has not remarkably rewarded the intermediate solution of textured tissue. This is part of the reason why we have decided to press on with our TAD strategy and focus on innovation for either conventional tissue of premium quality or actual structured tissue. Also, given the clear demand trend for low-consumption and more sustainable manufacturing, our R&D efforts have been centred around low-energy TAD, which will strike the right balance



between the typical properties of structured tissue and low energy use.

The digitalization of the entire tissue making plant is no doubt among today's most revolutionary innovations. The wider dissemination of the Industrial Internet of Things (IIoT) will contribute, through edge computing and cloud computing, to bring together IT (Information Technology) and OT (Operation Technology). Based on this, Toscotec is developing its data analysis and calculation capabilities related to Machine Learning, in order to create predictive models and optimize the production process in terms of OEE, and quality combined with energy efficiency."

2- What new technical demands are you seeing from the market, and how are you responding to that?

"Consumers and retailers are driving a true transformation toward more sustainable products. There is a widespread demand for decarbonizing the energy-intensive processes of the paper industry. As machinery manufacturers, we are committed to supplying the most efficient technology, which will enable tissue producers to save and recover energy, thereby reducing their carbon emissions.

We can also effectively contribute to the optimization of their processes, by designing energy-efficient layouts and water/chemical/fiber P&ID drawings. In short, our design and manufacturing work is focused on increasing machine

performances, boosting efficiency and reducing their ecological footprint. We are also witnessing an increase in the use of alternative fibres. Toscotec is working cooperatively with one of its closest partners to develop the right technology for the use of alternative fibres. This project aims to investigate the fiber properties and increase the quality of the end product, as well as



reduce the use of thermal and electrical energy in the stock preparation process."

3- What developments have you made in terms of energy?

"Apart from our strategic project of low-energy TAD machine, we have made significant headway in the development of other energy-efficient solutions.

First off, we are manufacturing the third generation of Toscotec's Steel Yankee Dryer, whose first installations are scheduled for 2020. Since we are the steel Yankee supplier with the most extensive experience globally,

we have available a very large set of data collected over the course of two decades on approximately 200 TT SYD operating under different conditions all over the world, including TAD process. This database represented a key asset for our R&D to develop the latest design, where we optimized the Yankee geometry and significantly increased its heat transfer efficiency at any nip load applied.

Secondly, we invested efforts in upgrading Toscotec's energy recovery equipment, first and foremost heat exchangers, in order to ensure the highest possible level of thermal energy efficiency in our steam and condensate, hot air and vacuum plants."

4- What trends are you seeing generally in the tissue market and the current global economic climate?

"In 2018, the price of cellulose was skyrocketing, which led many producers to put their investment plans on the back burner. Presently the trend has been inverted, which means that paper mills are determined to make up for lost time and starting to implement their expansion plans by adding new capacity. The demand for premium quality grades is still on the up and Toscotec is definitely recognized by the global market as a leading supplier with the capability to deliver premium quality tissue production.

At the same time, we saw a consolidation of the industry on

the equipment supply side, which contributes to the creation of a healthier competition climate for all players."

5- What environmental/sustainable demands are you seeing from customers? How are you responding to that?

"Papermakers are increasingly engaged in environmental protection at all levels. From the perspective of machinery manufacturer, our priorities in every project are reducing thermal and electrical consumptions to a minimum, cutting down on fiber usage and waste volumes by boosting fiber recovery across the entire process, and reduce fresh water consumption through optimized process engineering. The technology we have been developing for many years specifically aims to enable paper mills to achieve the product quality they need, while achieving energy reduction and delivering on their sustainability commitments. These targets simply underlie all our engineering and R&D projects."

TOSCOTEC

RECOGNIZED AS GLOBAL LEADER OF TURNKEY TISSUE PROJECTS.

In the last 15 years, Toscotec has specialized in the delivery of turnkey projects, providing more than 20 turnkey projects across the world.

Based on this substantial experience, the Italian manufacturer has become the global leading supplier of turnkey tissue projects.

Toscotec's turnkey scope of supply encompasses the entire tissue making plant, with the only exception of the civil works. The scope includes the complete stock preparation plant (tanks, chests, agitators, the piping system, stock and water pumps and instrumentation), Toscotec's patented TT SAF (Short Approach Flow) system, the tissue line - crescent former or TAD - and its auxiliaries (vacuum plant, hood and air system, steam and condensate plant, dust and mist removal systems), the water treatment plants, the electrical power plant

with cabinets, motors, cables and accessories, the control system, the compressed air system, the steam generators, the bridge cranes, the HVAC system (Heating, Ventilation and Air Conditioning), the chemical preparation skids, and the complete package of services including the plant erection, commissioning and start-up, operational and maintenance training, and the technical/operational support after start-up to achieve the guaranteed performances.

The sites of installation extend across four continents, with projects in Asia, Africa, America and Europe. Every project has specific logistic requirements, including transport to remote areas, and it often demands compliance to local standards of machinery manufacturing, with required coordination with local governmental bodies and customized engineering. This is part of the reason why Toscotec's considerable flexibility and continuous communication with customers play a crucial role in the successful completion of complex projects such as turnkeys.

Apart from greenfield supplies, Toscotec also specializes in rebuild projects on a turnkey basis, where it provides the whole package for the rebuild, including the entire scope of the new equipment, dismantling operations, erection, commissioning and start-up. Toscotec's rebuilds regenerate and extend the life of the existing plant, and require an even higher degree of customization than greenfield projects, because the design takes into account the constraints of the existing equipment.



Over 70% of Toscotec's turnkey projects install its top of the line AHEAD tissue machine, with paper width ranging from 2.7 m to 5.6 m, production capacity up to 250 t/d and operating speed up to 2,000 m/min and beyond.

Tissue producers point to the supplier's full accountability as one of the main advantages of turnkey contracts. Toscotec has consistently demonstrated its ability to deliver on demanding performances and to successfully manage highly complex projects. The fact that a high percentage of Toscotec's turnkey projects are repeated orders is clear evidence of this. The Germany-based Wepa Group consecutively chose Toscotec for four of its turnkey plants, with start-ups in 2002, two in 2015 and 2017. The Nigerian tissue producer

Bel Papyrus started up three complete Toscotec plants, for its PM1– which became Toscotec's first turnkey supply – and then PM2 in 2004 and PM3 in 2013. Other repeated turnkey orders were placed by The Navigator Company in Portugal and several Essity's projects.



Toscotec's competitive edge is threefold.

Cristina Brocchini, Toscotec's VCTO/ Process & Project Engineering

Manager, says: "Our first competitive advantage as turnkey supplier is our validated internal ability to manage complex projects, based on the vast experience we gained over 15 years".

The vast scope of supply of turnkey projects demands remarkable management skills and fine-tuned internal coordination. Cristina Brocchini points out, "The entire engineering is developed internally, which means that 100% of the plant design is completed by Toscotec's technical department itself, including all processes (stock, water, vacuum, hood, steam, dust, mist etc.)." The Italian manufacturer has invested in building a highly specialized technical team, who works with the most cutting-edge technological tools, including multiple 2D and 3D CAD software, a first-class PLM (Product Lifecycle Management) system, advanced simulation software and mechanical analysis tools such as FEM (Finite Element Model), CFD (Computational Fluid Dynamics) and PFD (Process Flow Diagrams). "We also have a stringent protocol of internal coordination of competences, to ensure efficiency between technical, purchasing, production, logistics and all departments involved" says Brocchini.

Toscotec's Service department is also a key player in the successful completion of turnkey projects.

Toscotec's Chief Customer Service Officer, Valter Di Nardo adds,

"The erection on a turnkey project lasts several months. It calls for diligent planning and much people management and coordination work. In 2015, we truly outdid ourselves, by starting up five turnkey projects in the same year. Managing more than one turnkey project at the same time is not uncommon in Toscotec's experience. In 2009, we fired up 3 turnkeys, then another 2 in 2017 and we will have other five starting production later this year and beginning of 2020."

The second advantage Toscotec offers as turnkey supplier is its proven capability to expertly deal with all kinds of raw materials.

Toscotec has vast experience in the full range of fiber types, including virgin fibres, recycled paper, non-wood (bamboo, bagasse and others) and deinked fibres, pre-dried, flash or slush. Brocchini says, "With turnkeys we can go a long way towards truly tailoring the process and the plant to the needs of the customer. As for recycled fibres, we designed and delivered stock preparation systems on several different turnkey plants in Africa and Europe. Bel Papyrus PM3 was a rather challenging case. We supplied two stock preparation lines, one for virgin fibres and one for recycled, which could run as fully independent or together to get a mixed pulp. The recycled paper line included various screening stages, a low density cleaning system, a deinking plant, two loops of washing, hot dispersion and two bleaching stations (oxidant and reducing). We also supplied the sludge treatment system, which is crucial when it comes to recycled raw material." In cases where the paper mill produced its own slush pulp, Toscotec expertly solved the issue of high resin content in the pulp, especially softwood pulp, thus avoiding the risk of unplanned stops and reduced wire life. With an eye to the reduction of

production cost, on numerous projects Toscotec also engineered a range of customized lines to process converting broke (including cores, glue and plastic waste), cupstock or selected recycled paper, in order to recycle these fibres into the process and maximize fiber efficiency without affecting machine performance.



The third key advantage of Toscotec's turnkey supply is its focus on saving energy and pushing the envelope on energy efficiency, across the entire plant.

Heat recovery is Toscotec's specialty, aimed to achieve the maximum possible thermal efficiency. The hood air system and the vacuum plant are two significant examples. On the air system, Toscotec can install up to five heat exchangers. "But the most important aspect" Brocchini adds "is that before we start engineering a plant, we carry out a detailed analysis of the available energy streams and the local cost of energy sources. In order to reduce the operating cost of the mill, we balance the system, according to which source we can use and what it is more convenient to recover. Over the years, we have implemented a wide variety of solutions, it is just a matter of understanding the mill's specific needs and then we can work out the most suitable design to achieve both reduction of their production cost and more environmentally friendly operations."

In the vacuum system, in order to maximize energy recovery and reduce overall consumption, Toscotec was one of the first suppliers to install turbo blowers. Back in 2011, at a time when very few people believed in the benefits of this technical solution, Toscotec designed the vacuum system of Papeterie d'Annonay in France, based on the idea that recovering the heat of the vacuum pumps' exhaust air would lead to a significant reduction of energy consumption in the hood air system. Since then, Toscotec has successfully applied the same solution to another 6 plants in Europe, the Americas and Africa.



WEPA CHOSE TOSCOTEC FOR 7 CUSTOM-MADE HOOD AND AIR SYSTEM REBUILDS ON A TURNKEY BASIS.

Since 2006, German tissue manufacturer WEPA Group has chosen Toscotec for all its hood rebuilds at various paper mills in Germany and Italy. These projects were all turnkey operations, where Toscotec supplied the complete package for the rebuild, from its engineering design, to the components supply, down to onsite dismantling operations, erection, commissioning and start-up. For these rebuilds, Toscotec developed a custom-made design of its hoods aimed to increase production and reduce energy consumption to a minimum; it engineered the nozzle boxes and customized the air system according to WEPA's requirements, in order to achieve top operation flexibility in cross direction moisture control and better machine runnability. Overall, Toscotec

supplied other hood and air systems to WEPA in Germany, France and Poland as part of the supply of new tissue lines. The following three projects are a selection of the rebuilds carried out from 2006 to 2019.

WEPA Marsberg-Giershagen PM5 drying section rebuild.

In 2006, WEPA Marsberg-Giershagen mill in Germany invested in the rebuild of the drying section of its PM5 and selected Toscotec for the supply of high-temperature hoods and its Steel Yankee Dryer TT SYD-15FT. WEPA believed in this new technology at a time when Toscotec had only manufactured a few TT SYD, and its innovative steel design had only just been introduced into what was a cast iron-dominated tissue market back then. Thirteen years later, WEPA has successfully installed another 6 TT SYDs and Toscotec has developed and implemented three successive product generations and sold over 220 steel Yankees worldwide, including 5,600 mm width and 22 ft diameter TT SYDs. WEPA's foresight was proved right, for steel Yankees are now recognized as the new technological standard in the tissue industry at a global level.

The gas-fired hoods supplied to WEPA Marsberg-Giershagen in 2006 operate at 600-650°C and are equipped with low emission burners running on high-temperature combustion air.

The energy necessary to heat up the combustion air is recovered from the air system itself through the use of heat exchangers. As a result, the advantage of low emission burners is twofold: one is the reduction of air pollutants such as nitrogen oxides (NOx) and carbon oxide (CO), and the second is cutting the overall gas consumption.

WEPA Italia Cassino PM13 drying section rebuild.

In 2013, Toscotec supplied a hood rebuild to WEPA Italia Cassino in southern Italy. The German Group confirmed the Italian supplier as the turnkey supplier of its second hood rebuild based on the advantages of Toscotec's technical proposal.

Firstly, the project was completed according to schedule, in a record time of only 6 months from contract signature to start-up. Secondly, the engineering design was custom-made based not only on the machine specifications, but also on the installation logistics, in order to avoid opening up the roof of the machine building and renting external crane equipment. Toscotec designed and manufactured these double-width hoods in separate modules and consequently achieved a significant reduction of the installation time and costs. According to WEPA's needs, in order to reduce machine down time and speed up the mill's administrative procedures, Toscotec realized a particular layout where the air system was installed outside the building.

In 2016, Toscotec also installed a TT SYD of 18ft diameter and 5,890 mm face length on the same machine.

WEPA Leuna PM10 hood rebuild in 2019.

For WEPA Leuna mill in Germany, Toscotec supplied the turnkey rebuild of PM10 hoods.

As with WEPA Cassino, the Italian manufacturer was asked to factor in the installation logistics while developing the custom-made design of PM10 5,600 mm web width hoods. The advantage was that the hoods were carried into the machine building through its regular entrance and lifted using the building cranes. This reduced time and cost, as it avoided work on the roof and rental of external cranes.

Toscotec completed the project on schedule within 7 days of machine down time, during which it performed the dismantling of the old parts, erection of the new ones, commissioning, and start-up. Achieving this required precise planning and the onsite assembly of key components before shutdown.

Mr. Lars-Helge Peters, WEPA Leuna

Mill Manager, said: "Inside the building we had to do a big crane job with evident space restraints, but Toscotec handled it very well. The start-up was perfectly on schedule, on Monday April 8th at 7 am. During the six months after the rebuild, we achieved two positive results: the first is a 3-5% reduction of PM10 overall energy consumption (gas and electrical power) and the second is the improvement of the moisture profile across all grades, from kitchen towel to toilet paper. Also, on this new configuration, compared with the old hoods, we observed an increased stability of the hood section and better runnability."

Successful outcome across 7 projects.

The results of 7 hood rebuilding projects over 13 years have been consistently a reduction of gas and power consumption higher than the contract guarantees and a significant increase in the run-ability of the machine, both in terms of overall efficiency and cross direction moisture profile.

Since their first drying section rebuild of 2006, WEPA and Toscotec began a fruitful cooperation that not only led to the successful completion of 7 hood rebuilds, but also to five complete tissue lines, three of which were turnkey supplies.

A large industrial facility, possibly a factory or warehouse, featuring a prominent orange beam with the word "DEMAG" written on it. The structure is complex, with multiple levels, stairs, and various mechanical components. The lighting is dramatic, with strong shadows and highlights. The overall scene is industrial and modern.

DEMAG

ARGENTINIAN TISSUE PRODUCER
CELUPAPER AND

TOSCOTEC: SIX YEARS OF SUCCESSFUL COOPERATION.

Celupaper S.A. is an Argentinian tissue manufacturer owned by Grupo Vual, a leading regional paper group who specializes in the production and marketing of pulp and tissue products, including napkins, kitchen towel and toilet paper, with an annual output of 75,000 tons. The Group is owned by the Speranza family and operates three paper mills (Jose Juan Yapur, Celupaper and Papelera Nicaragua), one pulp mill (Celulosa Alto Vale) and distribution centres in Santa Fe, Córdoba, Bahia Blanca and Buenos Aires, with over 700 staff.

In the last 6 years, Celupaper has collaborated with Italian paper machinery manufacturer Toscotec on all of its tissue machine projects. In 2015, Toscotec performed a major rebuild of its existing machine PM2. Following this rebuilding project, Celupaper installed two complete Toscotec tissue lines: a MODULO machine in 2016 (PM3) and a MODULO-PLUS machine in 2018 (PM4). On its latest investment (PM5), Celupaper made a repeat order for a MODULO-PLUS machine, currently scheduled for start-up in the second quarter of 2020.

We sat down with **Celupaper CEO Mario Luis Speranza** to discuss their past and future projects.

Who is Celupaper S.A.?

M. L. Speranza: "Celupaper is an Argentinian family business that over the years has capitalized on its own brands to accomplish significant market growth. This growth was possible thanks to the quality of our products and the end-to-end production integration driven by our continuous strive for efficiency. We have a clear mission, i.e. offering the best possible product at a fair price."

About your technological strategy: are you installing smaller tissue machines of 2,750 mm width and 1,300 m/min speed, so that you can fine-tune them to produce just one or two products each and maximise efficiency?

M. L. Speranza: "Each market has its own characteristics and we have been able to understand the ever-changing characteristics of our market, which is rather demanding, and above all, we listened to our business partners who asked for high flexibility. The correct sizing of our tissue lines allows us to adjust our production to the demand of the market and to the needs of our business partners."

In 2016, PM3 was your first Toscotec machine. Why did you select Toscotec?

M. L. Speranza: "First off, on PM2 rebuild we obtained excellent results in terms of both production efficiency and paper quality. Secondly, the strong technical support we received all along the project and PM2 successful start-up were key factors that led us to trust Toscotec."

The next step we took on the PM3 project was moving to a Crescent Former tissue line. Toscotec supported us throughout the project in an exceptional way. Another very important aspect in the choice of the supplier was that PM2 specific energy consumption was very low. This enabled us to be competitive in an increasingly demanding market."



What results did you get on PM3 in terms of machine performance and energy efficiency?

M. L. Speranza: "From the first parent roll, we got very good results; we immediately produced sellable tissue. It was astonishing and I believe it was the result of the excellent technical work that Toscotec and Celupaper did together throughout the entire project in order to meet our start-up target. PM3 is a very efficient line, running at an optimum production of 50 tons/day. It is a very reliable machine with easy operation. This allows us to always be one-step ahead in terms of routine preventive actions and ensure continuous operations.

In terms of consumption, right after start-up, we experienced first-hand that this new technology truly made us take a quantitative leap in terms of energy efficiency. We are very satisfied with PM3 consumption figures and are happy to see that our energy efficiency ratios are similar to those of European paper mills, which was unthinkable for us at the beginning of the project.

PM3 overall power consumption, including the stock preparation, effluents, auxiliaries and the paper machine, is about 600 kWh/tonpaper and the specific thermal consumption is below 240 m³/tonpaper."

What can you tell us about the quality of the product you are producing? How have the products been received in the market?

M. L. Speranza: " The products are premium quality and perfectly in line with the standards that we set for this expansion phase. When you have good formation and high quality on the parent roll, the processes that follow simply enhance these characteristics. We got an excellent response from our business partners and customers, as they continue to choose our products."

Let's talk about your second Toscotec's machine: PM4 in 2018. What motivated your choice in this case?

M. L. Speranza: "There were three driving factors leading to the installation of PM4. First, the excellent results obtained on PM3 performance and end product quality; second, easy machine operation and third, the technical support provided by Toscotec in the post start-up phase, during which we fine-tuned the entire production line and achieved the performance guarantees. In brief, we had a very good partnership and efficient communications between our technical teams. Under these conditions, Toscotec suggested that we install a MODULO-PLUS machine and we agreed. To us, Toscotec is a supplier who is committed to our business objectives and who truly understands our needs, to the extent that they develop custom-made technical solutions that fit our market."

How do you assess PM4 performance and efficiency after one year and a half? What about consumptions?

M. L. Speranza: "Again, I must say that the operating results are very satisfactory, because we obtained sellable tissue very quickly after start-up. The experience gained on PM3 allowed us to improve the layout of this new production line. This also made operating and doing maintenance on the machine easier for our staff, thereby increasing efficiency. In fact, on this project, we built a service channel that runs underneath the entire length of PM4. This tunnel ensures clean and simple installation of electrical components and other services and easy maintenance access. This was a key upgrade for us.

Just like PM3, the specific energy consumptions (per ton of paper) are very good. Product quality remained very high even if we changed our production matrix. Our customers appreciated this and continued to choose our products. As a result, we were able to go ahead with our investment plans even in such a difficult time for our country."

About your third Toscotec-supplied complete tissue line, PM5: why did you decide to use cogeneration? Were you satisfied with Toscotec's design of its integration with the machine air system?

M. L. Speranza: "We looked at industrial energy supply in Europe and the advances in cogeneration, including some case histories of our sector. Then, we analysed the prospects of energy supply for paper production in Argentina. We realized that we had the opportunity of increasing our production efficiency and competitive edge. Thanks to the progress made in gas generation and considering the increase of the electricity price, we could take advantage of these opportunities and reduce our production cost. In order to develop PM5 cogeneration integration system, Toscotec and Celupaper strengthened the teamwork and efficient communications that had always characterized their relationship. Toscotec's design for the integration of the cogeneration plant with the drying system clearly proves the joint engineering effort of two companies focused on a common objective. In addition to Toscotec, several suppliers participated in the cogeneration project, in particular EIL Energy."

Toscotec has been your tissue machine supplier for over six consecutive years, on four different projects. How would you describe this cooperation?

M. L. Speranza: "Toscotec understands our needs and trusts our knowledge and experience of the Latin American market, which translates into specific requirements for each machine on each project we do. We value the path we have walked together and the growth we have achieved. Toscotec is a key industrial partner for the success of our business and we count on them for our future projects."



TOSCOTEC TO BE ACQUIRED BY VOITH GROUP.



Toscotec is pleased to announce that it has reached an agreement with Voith Group on the acquisition of 90% of its shares by Voith. Alessandro Mennucci, CEO of Toscotec, will retain a 10% ownership. The agreement was signed on December 20th, 2019.

Established in 1948, Toscotec specializes in the design and manufacture of machinery and equipment for the production of tissue, paper, and board. Headquartered in Lucca Italy, and with subsidiaries in China and the USA, Toscotec provides its customers with state-of-the-art technologies and customized solutions from complete production lines to rebuilds and single components.

Following its acquisition by Voith, Toscotec will continue to provide its range of products and services and to operate at its existing locations.

The Voith Group is a global technology company. With its broad portfolio of systems, products, services and digital applications, Voith sets standards in the markets of energy, oil & gas, paper, raw materials and transport & automotive. Founded in 1867, the company today has more than 19,000 employees, sales of € 4.3 billion and locations in over 60 countries worldwide, and is thus one of the larger family-owned companies in Europe.

Andreas Endters, President & CEO Group Division Voith Paper,

commented: "Especially in the tissue range, Toscotec is a highly regarded and established company that strengthens our offering in this important growth area. With this acquisition, Voith can expand its position as a full-line supplier in all areas of the paper industry and gains a tradition-rich, powerful, and agile unit."

"We look forward to starting this new exciting phase of our history. We will strengthen our entire organization with substantial synergies. Toscotec's winning team will remain the same and will have the opportunity to grow and achieve new and important targets. The focus of our efforts is on maximum production efficiency, reduced consumption, and the highest quality. We are happy to have gained a renowned partner with Voith that pursues sustainable business activities and a likewise sustainable investment strategy" says **Alessandro Mennucci, CEO of Toscotec.**

The acquisition is expected to be completed in the first half of 2020, subject to all regulatory approvals and to the meeting of closing conditions.

PRESS RELEASE | 23TH JANUARY 2020

TOSCOTEC TADVISION® MACHINE COMES TO LIFE AT ESSITY MEXICO.



The TADVISION® machine supplied by Toscotec on a turnkey basis to Essity Mexico started up at its tissue mill, in Ciudad Sahagun, Hidalgo.

Designed for extra-premium product quality and superior energy efficiency, the TAD machine is equipped with a Steel Yankee Dryer, a successful pioneering innovation on this technology.

Toscotec's turnkey supply includes stock preparation, vacuum plant, complete electrification, extensive automation package, and all necessary auxiliary systems.

Toscotec also provided a skilful service package including detailed engineering, complete erection, commissioning, test runs, and start-up assistance supporting the vertical start-up of the TADVISION® machine.

Roberto Caballero, Vice-president Manufacturing Essity Latin America, says: "With our first TAD machine at Essity Mexico, we aim to increase the pace of innovation to deliver premium and more environmentally sound products to our customers and consumers in the region".

Marco Dalle Piagge, Toscotec Sales Director, says, "The new TADVISION® machine is state of the art designed for efficient air-through drying. We are happy to see that the mill is achieving very good results both in terms of machine efficiency and of energy consumptions."

STEFANO PECCHIA APPOINTED ENERGY TECHNOLOGY DIRECTOR AT TOSCOTEC.



Engineering from the University of Pisa and a master's degree in Paper and Board.

With a focus on energy efficiency, Toscotec offers a full range of products and services that deliver high productivity and energy reduction in the drying process. These include its customized TT Hoods that can use steam, natural gas, or other locally available energy sources. Toscotec's Dust and Mist removal system and Heating and Ventilation systems complete the portfolio.

Toscotec named **Stefano Pecchia its new Energy Technology Director** as its tissue and paper and board business looks ahead to continued growth in 2020.

Stefano Pecchia has more than twenty years of broad industry experience as a Technical Manager. He has worked on the design of energy and drying technologies for global key players, both in tissue and paper and board. He holds a bachelor degree in Nuclear

With his expertise and experience, Stefano will significantly contribute to strengthen Toscotec's position as a leading manufacturer of the paper industry.

TOSCOTEC TO REBUILD PM4 AT PAPETERIE LE BOURRAY'S MILL, FRANCE.

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."

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."



TOSCOTEC SUPPLIED TISSUE LINE COMES ONLINE AT PICKNIK MARKETING, SOUTH AFRICA.

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."





TOSCOTEC FIRED UP ITS 200TH TT SYD.

Toscotec has successfully started up its 200th Steel Yankee Dryer at César Iglesias Group's mill in Santo Domingo, Dominican Republic.

César Iglesias Technical Director, Jesús Ferris Ferrús, commented: "Following three months of stable operation, we can confirm that our new steel Yankee dryer is delivering exceptional performances. We registered a 25% reduction of our overall thermal consumption including Yankee and Hoods. The TT SYD's drying capacity is so high that we could significantly decrease the hoods temperature, thereby saving a substantial amount of energy. We also witnessed a great

improvement of our tissue quality, in terms of hand feel and CD moisture profile. This led to an increase in our converting efficiency, which we estimate to be in the range of 10%."

Since the first TT SYD was started up in the year 2000, this breakthrough innovation has come a long way. Toscotec's TT SYD was the first Yankee dryer made of steel to come to the global market and it has since outclassed cast-iron Yankees to become the new technological standard of the tissue industry. Since then, TT SYD has had numerous imitation attempts, but none has reached its superior level of performance and

the service experience which makes Toscotec the leading manufacturer of steel Yankee dryers worldwide.

With over 220 TT SYDs sold around the globe, Toscotec is by many magnitudes the world leading manufacturer of Steel Yankee Dryers; 200 cylinders currently operating all over the world is a notable milestone. These TT SYDs are running efficiently in more than 40 different countries across 5 continents, including over 110 cylinders in Asia and over 50 in Europe. The US market has only recently opened up to steel Yankees, and TT SYD sales have already reached over 10 units.

Out of the top 12 tissue producers in the world, 10 groups have recognised TT SYD's superior energy efficiency and performance, and installed it at one or more of their production sites. These producers include Essity, APP, Hengan, Sofidel, WEPA, CMPC, Kruger and others who remain confidential.

Last year, Toscotec's research and development launched the TT SYD's third generation design. The first and second generation had been developed and continuously improved in 20 years of ongoing research, monitoring, and service of steel Yankees operating under very different conditions all across the globe. This accumulated expertise allowed for the development of TT SYD's third product upgrade, where the height, width, and pitch of the internal ribs, as well as the shell thickness, attain an optimal geometry to maximize heat transfer







efficiency without compromising safety or longevity. Toscotec's R&D is also focusing on new innovations, including the Defender®, an internal surface treatment that ensures extraordinary resistance against corrosion and erosion. TT SYD's operation stability, durability, and correct safety coefficient are all guarantees of its safety.

Moreover, in order to optimize the manufacturing process and shorten the delivery period, in 2012 Toscotec set up a manufacturing space specifically dedicated to the construction of its Steel Yankee Dryers. TT SYD Technology Center is a highly technological and fully integrated 5,000 m² plant, located just a few kilometers away from Massa's maritime port, offering the logistical advantage of ensuring easy access to the seaport for large diameter Yankees.

Finally, beside TT SYD design advancements, Toscotec Service team has progressively and continuously upgraded the quality and accuracy of its Yankee dryer services, by relying on Toscotec's extensive experience - the longest in the tissue industry - of steel Yankee engineering design, manufacturing, and service, in order to achieve optimal performance and infinite life.

PRESS RELEASE | 15TH APRIL 2020

GULF PAPER MANUFACTURING KUWAIT BOOSTS CAPACITY AFTER DRYER SECTION REBUILD BY TOSCOTEC.

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

In December 2019, Toscotec completed a major rebuild of its PM1 dryer section. We asked **Mr. Ghaleb Al Hadhrami, Gulf Paper Manufacturing Projects & Development Manager**, to talk about what they achieved with this rebuild.

YES-CONNECT-VISION BY TOSCOTEC

The new generation of all-in-one AR solutions.

YES-CONNECT-VISION is a fully integrated AR solution for remote assistance:

empower your workforce in daily operations with instant expertise and remote technical experts collaboration through AR technology. YES-CONNECT-VISION allows remote users to experience on-site situations and what is happening as if they were present and **allows them to give on-site workers real-time support while staying focused on their job with an all-in-one "hands-free" solution.**



Will you please tell us about yourself and your work at Gulf Paper Manufacturing?

Mr. Ghaleb Al Hadhram: "I graduated in Paper Technology Engineering in 1981. Two years later, I joined Gulf Paper Manufacturing as a production trainee. In the following years, I held several roles at Gulf Paper until I was promoted Production Manager in 1987. During the Iraqi invasion of Kuwait in 1990, I worked as Production Engineer for Fine Group in Al Bardy Mill, Egypt and then in Nigeria for Bel Papyrus, which operated a Toscotec tissue machine. Finally, in May 1993 I went back to Gulf Paper as Production and Maintenance Manager. In 2003, the company purchased Ameer Paper Mill in Jebel Ali, Dubai. I managed this project as Project Manager first, then as Managing Director, in addition to my responsibilities at our Kuwait factory. Since 2016, I have been holding the position of Projects and Development Manager for both paper mills."

In 2019, Gulf Paper placed an order with Toscotec for a major rebuild of its PM1. What was the reason behind this investment? And why did you select Toscotec?

Mr. Ghaleb Al Hadhrami: "We had 4 main reasons to invest in this rebuild. First and foremost, we aimed to increase production. Secondly, we wanted to improve the quality of the fluting and test liner we were manufacturing. Thirdly, we wanted to reduce downtime and maintenance costs to a minimum. And finally, we

wished to do a major upgrade of PM1 in order to equip it with state-of-the-art technology.

We chose Toscotec because they were the first paper machinery manufacturer to introduce steel dryers, and then steel Yankee dryers, on the market. They have installed TT SteelDryers all over the world and have successfully proven the advantages of this technology compared to cast iron cylinders. At present, they are the supplier with the most extensive experience in the design, manufacturing, operation and maintenance of steel dryers."

Why did you choose Toscotec as your supplier?

Mr. Ghaleb Al Hadhrami: "We chose Toscotec as supplier of the whole mechanical project because of their good reputation in the market, high equipment quality, their commitment, competitive prices and strict project guarantees. I am extremely satisfied with the format of the supply including the erection from the same company. I would chose it again in the future and I would recommend Toscotec to my contacts in the paper industry."

Focusing on the project, what did you achieve with this rebuild?

Mr. Ghaleb Al Hadhrami: "First, in terms of time schedule, the machine downtime was implemented precisely according to the GANTT project timetable that Toscotec provided at the beginning. In the end, PM1 was started up ahead of schedule.

Second, in terms of our targets, within two months from start-up, the production increased by 15% and we expect to achieve an increase of over 20% within the next few months after removing the stock preparation bottlenecks we currently have.

Third, the dryer section efficiency we achieved with the new TT SteelDryers and the steam & condensate removal system is higher than we predicted.

Finally, we registered a significant improvement in product quality, particularly in the moisture and basis weight profiles, as well as the final hand feel."

Are you satisfied with the new silent drive configuration?

Mr. Ghaleb Al Hadhrami: "We are very satisfied with it! PM1 is now running very silently, without noise or vibration."

What about energy efficiency: did you achieve a reduction of your energy consumption?

Mr. Ghaleb Al Hadhrami: "Yes, after the rebuild, we witnessed a significant reduction of our energy consumption figures. In particular, we cut down the electric power consumption in the drives by 35% and the diesel consumption in the steam boilers by 15%."

How would you describe the cooperation with Toscotec?

Mr. Ghaleb Al Hadhrami: "Toscotec team proved to be highly skilled and very cooperative. They were very committed throughout the entire project and were able to take fast decisions and come back with

responses to our problems. We felt they had a good understanding of our needs and factored those in effectively in planning and follow-up phases.

During the erection, the onsite team was very professional and hardworking. They ensured the completion of commissioning and start-up in time and up to our quality standards. Finally, after start-up, Toscotec supported us to achieve stable operations in a very short time."



TOSCOTEC TO SUPPLY TURKEY'S BIGGEST TISSUE MACHINE TO ESSEL KAĞIT ON A TURNKEY BASIS.

Essel Kağıt (Essel Selüloz ve Kağıt Sanayi Ticaret A.Ş.) selected Toscotec for the turnkey supply of a new high-performance tissue line (PM3) at its Osmaniye mill in Southern Turkey. The start-up is scheduled for autumn 2021.

With a net trim width of 5,700 mm, Toscotec's AHEAD 2.2L line will be Turkey's biggest tissue machine, and with 270 tons per day it will also set the national record for highest production capacity. The new AHEAD 2.2L features a fully hydraulic TT Headbox ML-T with dilution control, a third generation TT SYD with optimized geometry for maximum heat transfer efficiency, TT NextPress shoe press technology, and high-recovery gas fired TT Hoods designed for cogeneration upgrade.



The turnkey supply includes the complete stock preparation system, Toscotec's patented Short Approach Flow TT SAF®, electrification and controls, dust and mist removal systems, and an online shaft puller. The tissue line will be completed by two OPTIMA slitter rewinders, Toscotec's new rewinder line with tension and nip control for high quality winding. There will be one OPTIMA 2600L line processing 5,700 mm width parent reels and fitted with dust removal system, and one OPTIMA 2200 line for 2,850 width parent reels, both equipped with an automatic shaft puller.

A comprehensive service package completes the supply with detailed mill engineering, erection supervision, commissioning, start-up, and training, as well as YES Connect-Vision to ensure high-tech remote support.


Abdurrahman Esen, shareholder and General Manager of Essel Selüloz ve Kâğıt Sanayi Tic. A.Ş., says, "This important investment is crucial for Essel's expansion strategy in Turkey and other markets. We required the most energy-efficient and cutting-edge technology to support our growth and to continue serving our customers with the highest tissue quality at competitive prices. Considering also its strong expertise in turnkey projects, Toscotec proved to be the best choice for this operation."

Alessandro Mennucci, CEO of Toscotec, comments, "We are excited to begin a key partnership with Essel.

It rewards the commitment and efforts we made in this difficult time, during which we never stopped working, and it testifies to the foresight of Essel who decided to look to the future and go ahead with its investment strategy. The supply presents Toscotec's top of the line technology, including the shoe press, third generation Steel Yankee Dryer and OPTIMA rewinders. We will put all our experience in managing complex projects at Essel's service to achieve our common objective. With this important project, Toscotec strengthens its position as global leading supplier of turnkey solutions for the tissue industry."



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."

Established in 1948, Toscotec specializes in the design and manufacture of machinery and equipment for the production of tissue, paper, and board. Headquartered in Lucca, Italy, and with subsidiaries in China and the USA, Toscotec provides its customers with state-of-the-art technologies and customized solutions from complete production lines to rebuilds and single components. Technology Group Voith acquired 90 percent of the shares.

PRESS RELEASE | 14TH MAY 2020

TOSCOTEC COMPLETES A MAJOR REBUILD OF ARAPEPCO'S PM1 IN ALEPPO, SYRIA.

The Arab Company For Paper Products Ltd. (Arapepco) successfully started up its PM1 at Khan Al-Asal paper mill, near Aleppo, Syria, after a major rebuild supplied by Toscotec. The paper machine features a reel trim width of 2,850 mm, 800 mpm design speed, and produces fluting and test liner in the range of 105 to 200 gsm using 100% recycled paper. Toscotec carried out a complete rebuild of PM1 from the press section to the pope reel.

Previously, the paper machine was rebuilt by Toscotec in the forming area with the installation of a TT Headbox and modification of the Fourdrinier section, as well as a dryer section rebuild.

The latest rebuild comprises the press section, dryer section and pope reel. The former included the supply of a combi plus jumbo press and a size press. For the dryer section, Toscotec provided its energy-efficient TT SteelDryers featuring 10 bar maximum operating steam pressure, and a tail threading system with air and rope. The supply also included some approach flow system equipment, TT Unirolls, as well as a completely new pope reel and a rewinder unwind stand.

The targets of the rebuild are to increase PM1 production capacity, to extend the range of products produced and to improve paper quality.

Hasan Badinjki, Chairman of Arab Company for Paper Products Ltd., says, "This project is a miracle. We implemented it during the conflict with Toscotec's support and it truly required all our efforts to get to today's result. We upgraded the machine with the latest technology and it is currently performing very well. Arapepco aims to install a top layer in 2021 to meet increasing market demand especially for white top."

Enrico Raffanti, Toscotec's P&B Technical Manager, says, "Due to difficult country situation in Syria in the recent past, this project represented a real challenge from many points of view. We continuously supported Arapepco from our headquarters and on site, and finally we carried out a comprehensive rebuild of the existing PM1 into a state-of-the-art paper machine. Such a positive outcome is indeed a source of great satisfaction for both our work teams. I congratulate Arapepco for their strong determination to complete this project successfully!"



RECORD 2,200 MPPM 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.

PRESS RELEASE | 25TH JUNE 2020

TOSCOTEC TO REBUILD THE DRYER SECTION OF PM1

AT CARTIERA
DI FERRARA, ITALY.





Cartiera di Ferrara selected Toscotec for a complete dryer section rebuild of its coreboard machine at Ferrara mill in Italy. The paper machine produces coreboard in the range of 220 to 620 gsm, processing 100% recycled paper. The delivery is scheduled for the third quarter of 2020.

The project includes two dryer sections. In the first part, Toscotec will install new felt, guide and stretcher rolls; it will modify the existing frame structure and supply a new frame section. The second part will be completely new and it will feature 16 new TT SteelDryers of 1,829 mm diameter designed for an operating steam pressure of 10 barg. The scope also includes bearings and housings, steam fits and joints, turbulence bars for the dryer cans, and all the main section components such as felt rolls, stretchers, guiding devices, and doctors.

Toscotec will supply mechanical drives for the entire dryer section in silent drive configuration. The services package includes mechanical erection, supervision, commissioning, and start-up assistance.

The rebuild will increase the mill's production by 30%. Toscotec will reposition the existing 1,500 mm diameter cast-iron dryers to the first part of the dryer section, and it will implement an increased thermal efficiency in the second part using TT SteelDryers of a larger diameter.

Giulio Spinoglio, President and CEO of Cartiera di Ferrara, says: "Out of the various proposals we evaluated for this project, Toscotec's rebuild solution was the most compelling one for two main reasons. First, the timeline of the project. Toscotec gave us good guarantees on the PM shutdown time and their previous record of successful rebuilds confirmed their capability to deliver. Second, their technical solution was the most advantageous for us in terms of production increase and energy efficiency."

Enrico Fazio, Head of Sales of Toscotec Paper & Board division, says: "Our rebuild solution allows for a significant increase of PM1 production capacity, without changing the length of the dryer section. This means that the positions of the press and the pope reel remain unchanged and that civil works will not be required, thereby significantly reducing the machine shutdown time."



TOSCOTEC AHEAD LINE PERFORMANCE BY TOSCOTEC

Speed is not an option and when joined by leading-edge technology, evolved engineering and the highest levels of performance, it becomes a must.

Toscotec allows you to reach this goal with its **AHEAD Line**: the high-speed tissue machine range capable of attaining 2,200 mpm and producing high-quality tissue from virgin and recycled fiber with proven energy savings, maximum efficiency and reliability.

The performances your business was just waiting for.

YOUR NEEDS, OUR SOLUTIONS.

www.toscotec.com

 **TOSCOTEC**
A Voith company

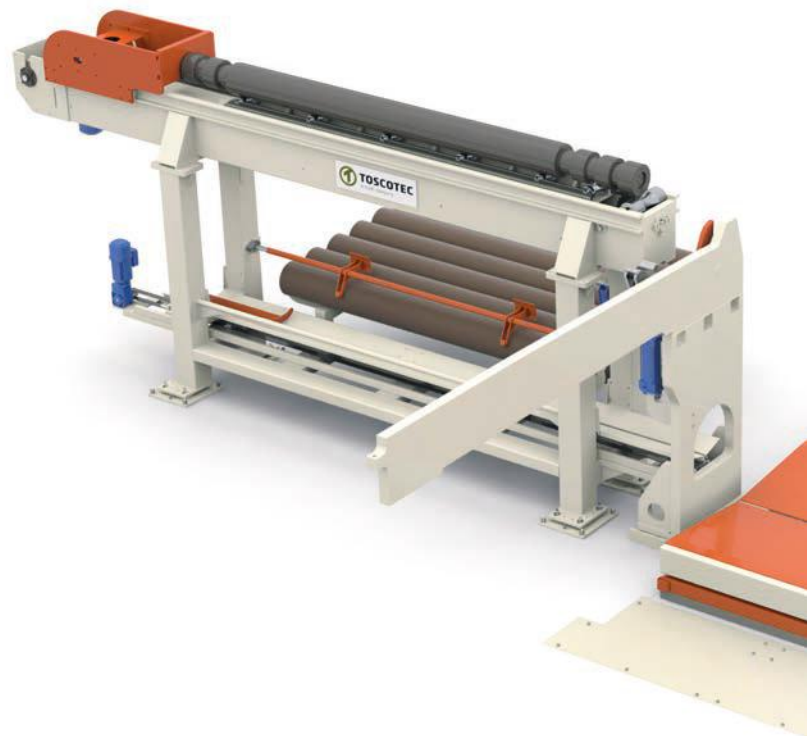
TOSCOTEC SHAFT PULLERS ACHIEVE TOP RESULTS AT LUCART AND MARUTOMI.

Toscotec's automatic shaft pullers met their goal with great results at Lucart's mill in Porcari, Italy, and at Marutomi Paper's mill in Fuji, Japan.

Lucart's automatic shaft puller is installed on a Toscotec-supplied slitter rewinder, and it has been efficiently operating since start-up of their AHEAD tissue line in late 2018.

Having started up in August 2019, the in-line shaft puller installed on the pope reel of Marutomi's paper machine has been efficiently running for almost one year. Another in-line shaft puller is expected to come online in 2021 at Ono Paper's mill on a new tissue line delivered by Toscotec.

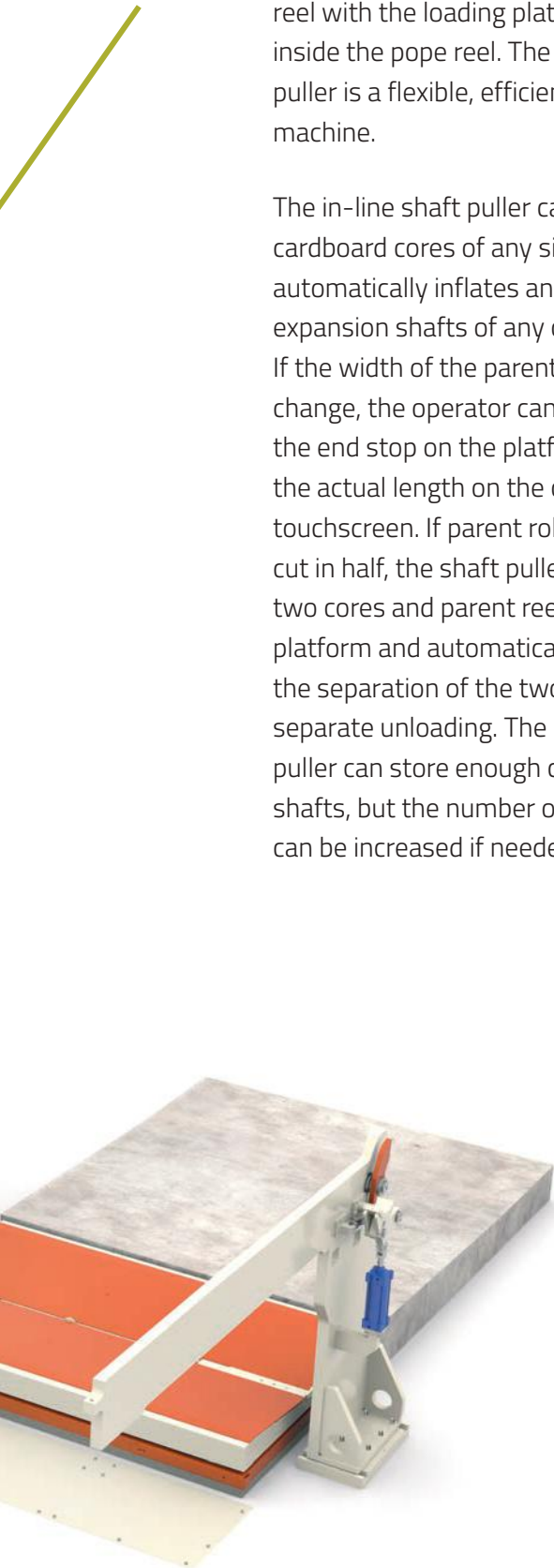
The shaft pullers feature a small and compact design for easy transport and installation in limited space, and they are pre-wired and pre-tested at Toscotec's workshop, thereby significantly reducing commissioning efforts on site.



Tissue machine's in-line shaft puller: flexibility and efficiency

Composed of two parts, the shaft puller is installed on the drive side of the pope reel with the loading platform installed inside the pope reel. The in-line shaft puller is a flexible, efficient, and reliable machine.

The in-line shaft puller can handle cardboard cores of any size and it automatically inflates and deflates expansion shafts of any configuration. If the width of the parent reel needs to change, the operator can simply adjust the end stop on the platform and enter the actual length on the control panel touchscreen. If parent roll needs to be cut in half, the shaft puller can handle two cores and parent reels on the same platform and automatically control the separation of the two and their separate unloading. The basic shaft puller can store enough cores to fill six shafts, but the number of cores stored can be increased if needed.



Slitter rewinder's shaft puller: high automation and fast cycles.

The shaft puller at Lucart is an example of a highly automated machine with integrated safety features aimed to reduce manual operation and increase winding safety.

Its user-friendly control panel features descriptive images and clear instructions designed for effective cycle control, alarm management, and maintenance. With a single input on the control panel, the operator can set up the extraction of full-width or multiple cores of different sizes. The range between maximum length and minimum length is 500mm, no mechanical modification is needed. The shaft puller can be equipped with an automatic core loader, in order to execute several cycles without manual operation. The diameter of the finished reel and its center height are communicated by the rewinder directly to the shaft puller. Based on these inputs, the shaft puller is able to automatically find the shaft to be extracted, without operator support.

Toscotec's fully automated shaft puller is the perfect match for the OPTIMA slitter rewinder line, ensuring optimal alignment between the wound reel and the puller. New orders from tissue manufacturers such as Paloma, C.A.S. Paper Mill, Cartiera Confalone and Essel Kağıt attest to its reliability and good performance.

PRESS RELEASE | 9TH JULY 2020

TOSCOTEC TO REBUILD THE DRYER SECTION OF PM4 AT AVIRETTA, GERMANY.

German containerboard manufacturer Aviretta selected Toscotec to rebuild the post dryer section of its PM4 at Ettringen mill, Bavaria. PM4 produces test liner and fluting from 60 to 130 g/m². Start-up is scheduled for the fourth quarter of 2020.

Toscotec will supply nine TT SteelDryers of over 7m face width, which will replace PM4's existing cast iron cylinders. The scope includes condensate spoiler bars, steam joints, bearings and housings, and spares. Aviretta also ordered a comprehensive service package, with engineering, on site disassembly, erection, commissioning, and start-up.

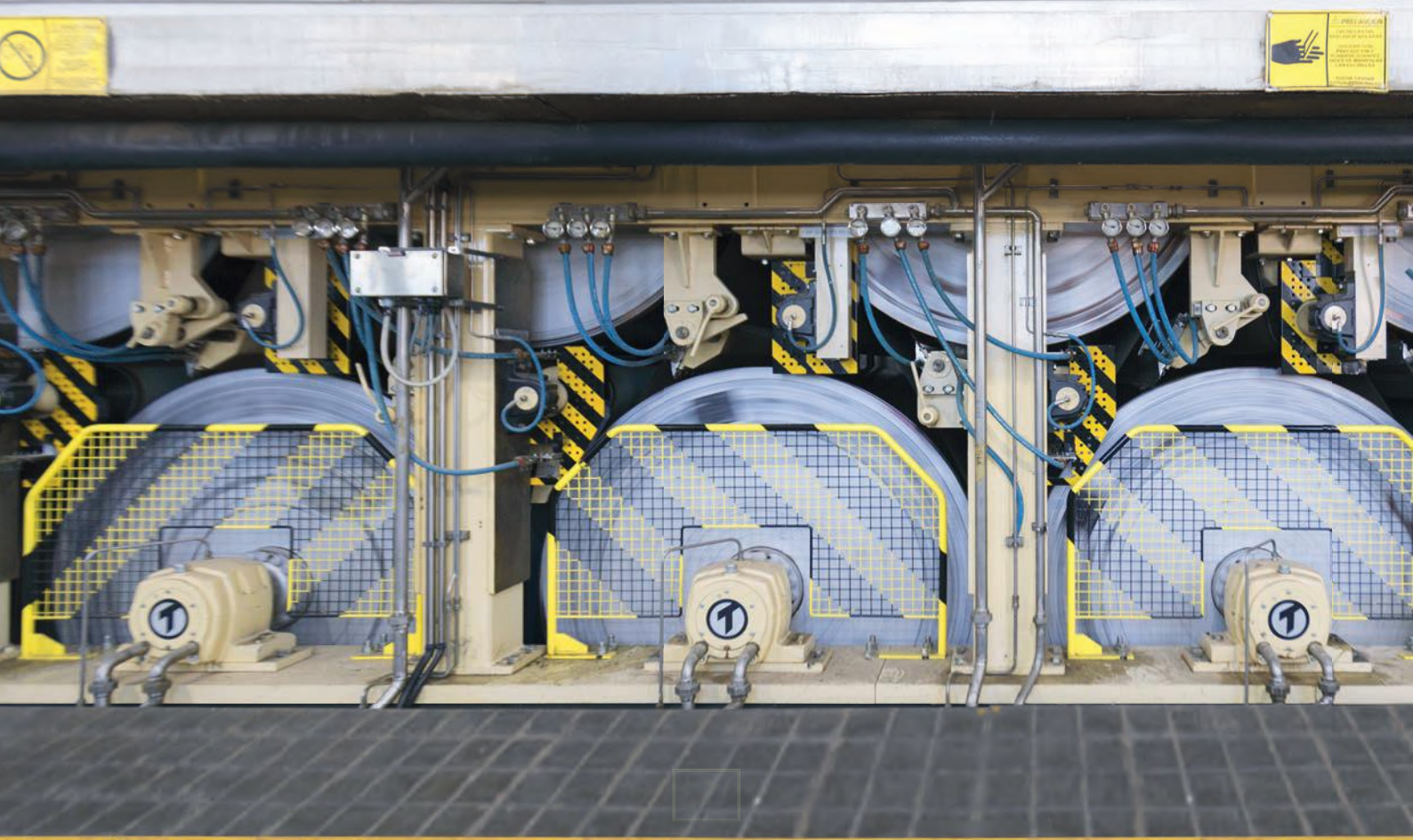


Carl Pawlowsky, Executive Partner of Aviretta GmbH, said: "I was very impressed with Toscotec's technical proposal, due to the quality of its TT SteelDryers, their wide installed base, and Toscotec's substantial experience in the field. We expect to be able to count on a very reliable product with high performance in the long term."

Giancarlo Gianlorenzi, Toscotec's Sales Manager, said, "We are proud to be recognized in a technological market such as Germany. With this new project, Toscotec is confirmed as the benchmark supplier of dryer section rebuilds of large format and high speed paper machines. We are happy to start a new partnership with Aviretta, and are confident that our TT SteelDryers will satisfy their reliability and quality requirements. The schedule of the rebuild is rather tight, but we will meet their expectations."

PRESS RELEASE | 15TH JULY 2020

TOSCOTEC-REBUILT PM1
EXCEEDS
PRODUCTION TARGETS
AT PAPERTECH
IN SPAIN.



Core board manufacturer Papertech exceeded the targets of production increase originally set for the rebuild of its PM1 at Tudela mill, Spain.

At the end of 2018, Toscotec carried out a turnkey rebuild of the dryer section, installing 20 new TT SteelDryers. The supply included TT AirTail, an advanced

rope-less tail threading system, which features a simple air flow regulation that guarantees stable tail threading for any basis weight. PM1 came online at the beginning of 2019 and successively exceeded the production targets Papertech originally set for this rebuild.

Mr. David Rubio, General Manager of Papertech and **Dr. Luis Miguel Calvo, Mill Manager**, openly discussed what they achieved with their rebuild project.

Who is Papertech?

Mr. Rubio: Founded in 1952, Papertech is a core board specialist in Spain. The Group has four paper mills in Europe and Asia: Tudela mill in Northern Spain, two mills in Indonesia and one in China. A couple of years ago, Sonoco Corporation, the global packaging company, bought 100% of the company's shares. The group manufactures paper tubes and cores and other industrial applications such as cones for the textile industry, laminates, composite cans and dividers.

Currently, Tudela mill has an annual capacity of 60,000 tonnes, and the group total production is approximately 300,000 t/y.

PM1's rebuild was your first cooperation with Toscotec. Why did you select Toscotec?

Mr. Rubio & Dr. Calvo: Our goal was to increase production. Out of the various technical solutions we evaluated, Toscotec gave us the most advantages. Firstly, with TT SteelDryers you can customize the diameter, and they offered a larger diameter than that of the cast iron cans we had; secondly, TT SteelDryers feature a bigger drying



surface than cast iron dryers of the same face length. Basically, maintaining unchanged the overall length of the dryer section of the paper machine, we significantly increased our drying capacity, due to the larger diameter and drying surface of the new steel dryers. As a result, we were also able to preserve our existing hood, which is still working well. Toscotec had many successful references of similar rebuild projects and we were rather impressed with their extensive experience.

Why did you choose a turnkey supply?

Mr. Rubio & Dr. Calvo: This has been a key part of our growth strategy and we wanted to have one single company in charge and responsible for every aspect of the supply, including the mechanical and electrical part and services. Toscotec supplied all of the equipment and provided erection, supervision, commissioning and start-up assistance. They did a great job, we are very satisfied with their management of this turnkey supply.

Let's focus on the project implementation. Are you satisfied with time management?

Mr. Rubio & Dr. Calvo: We were very focused on the machine downtime, because any delay would have put us in the difficult position of handling unplanned downtime, which is very costly. Toscotec's team managed the project schedule beautifully. Our machine downtime was executed exactly as planned. It was perfect!

Did you achieve your production targets?

Mr. Rubio & Dr. Calvo: Yes, we achieved our targets of production increase. Actually, we surpassed the targets we had originally set for this project. TT SteelDryer lived up to our expectations and delivered a high drying capacity, which allowed for this production increase.

Toscotec's rope-less tail threading system has been another upgrade of our existing line. It was specifically designed for low speed and high basis weight, because we were to apply it also to our higher basis weight range. As we went along, the expertise of our operators increased, which contributed to improve its final efficiency. Now, we are happy with it.

How would you describe the cooperation with Toscotec? Mr.

Rubio & Dr. Calvo: The cooperation has been very profitable. Toscotec is a very professional and flexible supplier, who delivered and implemented a successful rebuild. Their team provided fast responses and assistance whenever needed, solved problems and coordinated all the involved parties in the best possible way.

TOSCOTEC RECEIVES FORTH TURNKEY ORDER FROM WEPA.

Toscotec will supply an AHEAD 2.2S tissue line on a full turnkey basis to WEPA Piechowice mill in Poland. The project is planned in a short time frame, with start-up set for the third quarter of 2021. This is a repeated turnkey order for WEPA Piechowice mill, where an AHEAD 2.0S machine supplied by Toscotec on a turnkey basis came online in 2017.

WEPA selected Toscotec for the turnkey supply of the last three tissue machines it installed since 2015, including WEPA Lille in France, WEPA Giershagen in Germany and WEPA Piechowice. Previously, Toscotec had supplied other two complete machines to WEPA Sachsen in Kriebstein, and to WEPA Giershagen. This new AHEAD 2.2S in Poland will be the sixth tissue line that Toscotec delivers to the German Group, in addition to the numerous rebuilds it completed over the years for the wet end and dry end sections of WEPA's existing machines. Recently, WEPA Giershagen PM19 achieved the constant operating speed of 2,200 m/min, setting a new world record in the tissue industry for machine speed in continuous running conditions.

The new AHEAD 2.2S machine features a 2750 mm sheet trim width and a

design speed of 2200 m/min. It will produce over 40,000 t/y of premium quality tissue mainly for the Away-from-Home market, made of either virgin or deinked pulp (DIP). The AHEAD 2.2S machine is equipped with Toscotec's shoe press technology TT NextPress, a third-generation-design TT SYD, gas-fired hoods with several stages of energy recovery, and an in-line shaft puller at the pope reel. The machine is designed for the implementation of digital technology and advanced control systems supplied by Toscotec and Voith.

The project also includes the complete stock preparation, Toscotec's patented TT SAF (Short Approach Flow) for high operation efficiency, the complete electrical and control system, including the DCS and the QCS and the dust and mist removal systems. The vacuum plant, air compression station, bridge cranes, roll handling and hall ventilation systems complete the turnkey supply.

WEPA also purchased a full service package including the detailed mill engineering, the plant and the machine erection, commissioning, start-up supervision and training.

Martin Kregel, CEO of WEPA Group said, "As in the past, we have great confidence in Toscotec and are convinced that we have the right partner with the latest technology on our side for this project. We continue to trust Toscotec for their commitment to our efficiency and product quality, their

operational flexibility and their ability to fully meet our demands."

At the Piechowice site, WEPA produces for the Away-from-Home market. Udo Raumann, Managing Director of WEPA Professional said, "The new line is an investment in our future. We modernise the production site by replacing the existing crepe line with state-of-the-art machinery for tissue production."

Alessandro Mennucci, CEO of Toscotec, said, "We are proud of our strong relationship with WEPA, which made our two companies grow together as trusted partners for over 20 years. Just like we did in the past, Toscotec will line up its most advanced technology, know-how and expert team to manage and successfully complete this new turnkey project."



TOSCOTEC SUCCESSFULLY LAUNCHES THE NEW OPTIMA REWINDER LINE: AN INTERVIEW WITH MASSIMILIANO CORSINI.

Toscotec has completely redesigned its rewinders, giving life to the new OPTIMA line. Thanks to his wide technical experience in the paper industry, Massimiliano Corsini, Business Development Director at Toscotec, supervised the design and construction of the OPTIMA line. In an exclusive interview, Massimiliano talks about the reasons why OPTIMA is successful on the global market.

Why did Toscotec invest in a new rewinder line?

Massimiliano Corsini: "First of all, participating in the development of our new rewinder line was a pleasure for me. While treasuring the existing design, I had the opportunity of putting many years of experience in this sector to good use. The rewinder completes the tissue machine's work and preserves the quality of the product. In the tissue market, Toscotec proposes itself as a complete and highly technological manufacturer, both for the AHEAD line and for rewinders. The OPTIMA line offers three different models suitable for any type of need: OPTIMA 1800, OPTIMA 2200 and OPTIMA 2600. These numbers refer to the diameter of the finished roll. Regarding the paper width, we recommend up to 3,650 mm for the first two models, and up to 5,600 mm for the OPTIMA 2600 rewinder."

What feedback are you getting from the market?

Massimiliano Corsini: "The market has responded very positively. We have so far sold five OPTIMA lines as an integral part of turnkey projects for C.A.S. Paper Mill in Thailand, Paloma in Slovenia, Cartiera Confalone in Italy and Essel Kağıt in Turkey, as well as two lines for projects that remain confidential. These results have confirmed that we have reached the technological level of the biggest global manufacturers."

Which are the winning features of the OPTIMA rewinders?

Massimiliano Corsini: "The ability to preserve the paper qualities achieved by the tissue machine, in particular softness and thickness. To this end, we added the centre wind assist and sheet tension controls in the unwinding phase, and on the rewinder head, the automatic nip control system. All of this allows us to eliminate the unnecessary pressure to which the paper is often subject during winding, and thus reduce the bulk loss to a maximum of 3% and the elongation to only two units, for example from 20% to 18%. These results allow you to set a lower creping value on the paper machine, thus avoiding having to reduce the speed and therefore the daily production to compensate for the excessive elongation in winding. Furthermore, ensuring the uniformity of the finished rolls – in terms of length and density - increases the efficiency of the system, maintains a stable production, and reduces production losses and downtime."

What are the main features of the unwind stands?

Massimiliano Corsini: "The unwind stands have a stable and reliable system. The axial motorization of the reels limits the effects of the pressure exerted on the paper by the belts, preserving the qualities of thickness and softness. Firstly, our system - unlike other systems that use load cells and consequently an "s-shaped" paper path - allows us to reduce the production of dust. Secondly, according

to our experience, the models adopted by other manufacturers, which provide a pure centre drive, are limited on rapid accelerations and decelerations, causing the paper to twist inside the reel. Finally, the installed power required on the OPTIMA rewinder is lower, thus reducing the initial investment made by the paper mill.

Moreover, the unwind stands are equipped with a rapid ejection system of empty shafts, which facilitates reel change and guarantees the efficiency of the rewinder's production cycles."

Which control system is used on the new line?

Massimiliano Corsini: "OPTIMA rewinders are easy to operate. Users can choose between the automatic mode, managed by the nip control system, and the manual mode, where they can modify the relief curves according to their experience.

The system offers three control options. The classic system, where you have an open loop control, and the relief curves are set by the operator. The evolution system, where there is an open circuit, which through an optimized algorithm maintains the set nip pressure. And the TT Nip system, where the circuit is closed by the feedback of the load cells, and through an algorithm and a PID it keeps a constant nip."

What type of calender can you install on the OPTIMA rewinder?

Massimiliano Corsini: "Based on the paper width and the mill's requirements, we offer two types of calender: a skewing calender for sheet width smaller than 3.6 m, and the variable crown calender we recommend for double width, which ensures a more precise system and better results in terms of paper hand feel. In the latter, the compensation is achieved with hydraulic pistons inside the lower roll which avoid the deformation of the cylinder."

What are the advantages of the OPTIMA rewinder's slitting group?

Massimiliano Corsini: "In order to meet the specific needs of the customer, we designed the slitting unit in three different versions, which are all equipped with an independent drive system. They are the manual, the displayed and the automatic slitting groups. In the manual version, the knives and counter-knives are positioned manually by the operator. In the displayed version, the operator manually moves the cutting groups and verifies through a display both the position of each knife with respect to a reference position and the distance of each knife to the adjacent one. The automatic version allows the system to independently position the groups based on the operator's setting."

How would you describe the winding system of the OPTIMA rewinders?

Massimiliano Corsini: "The design of the rewinder's head aims to keep all the mechanical parts out of the frame. The purpose is to ensure cleanliness, i.e. avoid product contamination caused by grease or oil leaks, and to ensure easy access for maintenance. The safety guards installed around the rewinder are made of painted steel with a large open area covered by plexiglass for easy machine inspection. Furthermore,

for each component the line is equipped with local control panels. The unloading of the finished reel has also been thought out in detail: it is carried out by means of a hydraulic platform that can be positioned at the level required by the customer according to the needs of the handling system downstream of the rewinder. Finally, the shaft puller that we supplied with the rewinder ensures high efficiency and a very quick finished reel change."



TOSCOTEC SUPPLIED HOODS ACHIEVE TOP PERFORMANCE AT WEPA MAINZ.

Toscotec successfully completed a hood rebuild on PM1 at WEPA Mainz in Germany. After a tight shutdown timeframe, PM1 started up on schedule last year. Following a period of stable running conditions, it successfully completed the performance test, and outperformed the technical guarantees of the rebuild by having excellent results for drying capacity and gas consumption.

The rebuild was a turnkey operation, including gas-fired TT Hood, an air system fitted with low-emission burners, several stages of energy recovery, and the complete electrification system for the scope. Toscotec's high efficiency TT Hoods deliver an even distribution of air on the paper sheet, ensuring a perfectly uniform moisture profile in cross direction. WEPA also ordered a complete service package including dismantling operations,

erection, commissioning, and start-up assistance. Since 2006, Toscotec supplied seven hood rebuilds to WEPA at five different mills in Germany and Italy. The successful outcome of these projects has been consistently a reduction of gas and power consumption higher than the contract guarantees and a significant increase in the run-ability of the machine, both in terms of overall efficiency and cross direction moisture profile.

Per Thorneman, technical manager and project manager at WEPA Mainz says: "The preparation, the processing, the commissioning and the follow-up were always cooperative and professional. Even if the time frame for the shutdown of the plant was very challenging and could only be kept in two shifts over 24 hours."



Rene Martin production manager PM1 at WEPA Mainz, says: "The new hoods and the new air system work efficiently and deliver good results in terms of the uniformity of the profile as well as the gas and electricity consumption. We have significantly reduced our operating costs."

Elena Troia, Toscotec Energy sales manager, says, "From a technical point of view, this rebuild was very interesting for the size of TT Hoods – for an 18 foot Yankee, double width – and for its turnkey scope. Toscotec evaluated the running conditions of the existing equipment and developed a tailor-made solution to improve PM1's performance and energy consumptions. WEPA set a very tight shutdown period, but we met their targets and we are happy to see that the new TT Hoods have been running efficiently since start-up."

TOSCOTEC LAUNCHES NEW OPTIMA REWINDERS FOR TOP WINDING QUALITY AND EFFICIENCY.

Following a complete design upgrade of its rewriter line, Toscotec launched the new OPTIMA rewinders. The new line has achieved recognition in the market with eight rewinders already sold in Europe, North America and Asia, including single and double width machines.

With six OPTIMA lines as part of turnkey orders by C.A.S. Paper Mill in Thailand, Paloma in Slovenia, Cartiera Confalone in Italy and Essel in Turkey, Toscotec further strengthens its position as advanced technology

supplier of complete lines from the tissue machine down to the rewriter. The other two rewinders were sold to leading tissue manufacturers that remain confidential.

The new OPTIMA line preserves the bulk and softness of the parent reels and boosts winding performance, thereby increasing the overall production efficiency.



Securing softness and quality

Through an innovative combination of center wind assist control of the parent reels, unwinding web tensioning system and rewinding nip control system, OPTIMA rewinders preserve tissue quality and deliver optimal reel uniformity.

The unwinding stands feature a compensation system for out-of-round parent reels and a Center Wind Assist (CWA) control, which consists of a combination of belt driven and center drive system, which reduces the pressure applied on the paper by the belts of the unwinding stands. Compared with different systems available on the market, this system reduces the generation of dust and the installed power, which is shared between the belt and the CWA through a motor torque sharing design.

OPTIMA's efficient web tensioning system avoids elongation loss throughout the rewinder. This is achieved by continuously and precisely controlling the speed of the drive motors, also during machine acceleration and deceleration, in order to carefully guide the paper down to the rewinding station, while avoiding stretching it.

The rewinding section features an automatic nip control system, operating through the load cells installed on the rider roll and the core chucks, which send continuous feedback to the control system, so that the actual thickness and bulk of the wound reel is detected and adjusted in real time.

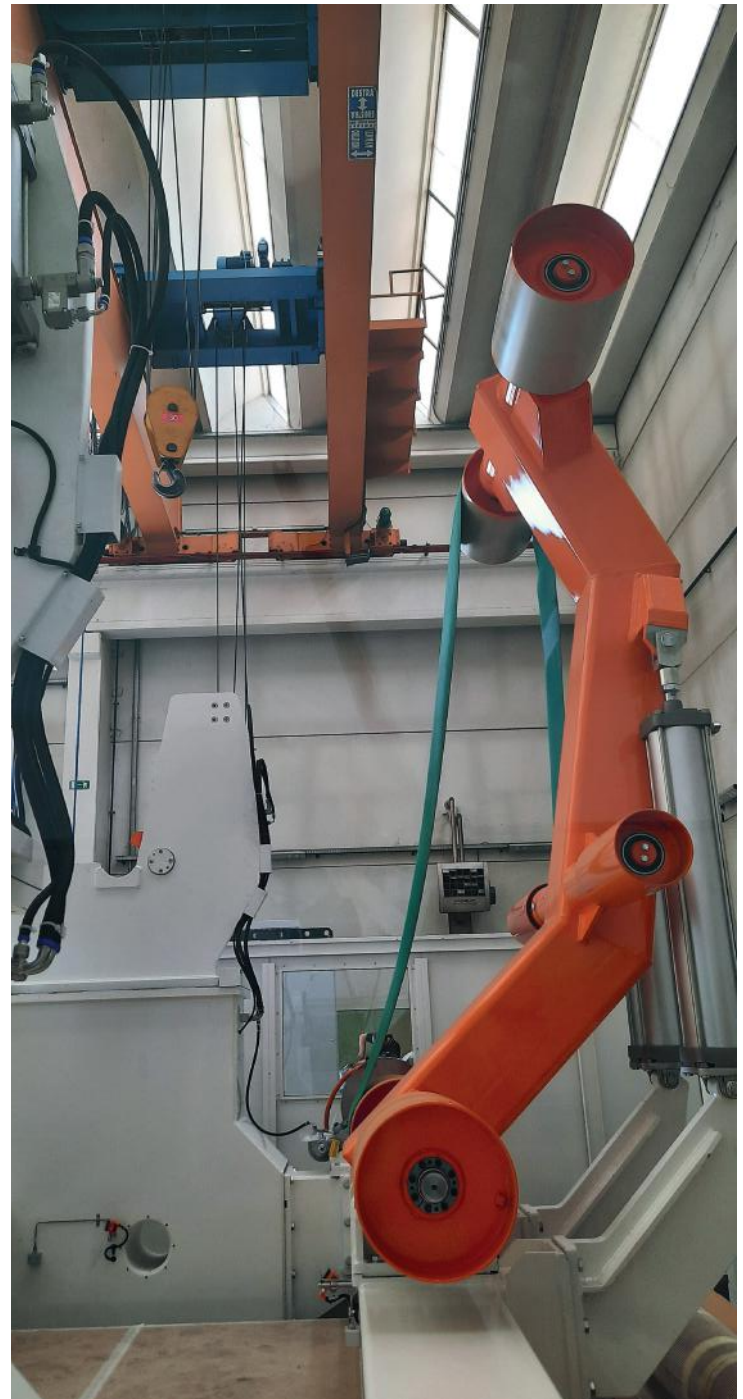
As a result, bulk loss is guaranteed to be less than 3% and the elongation loss below 2 units.

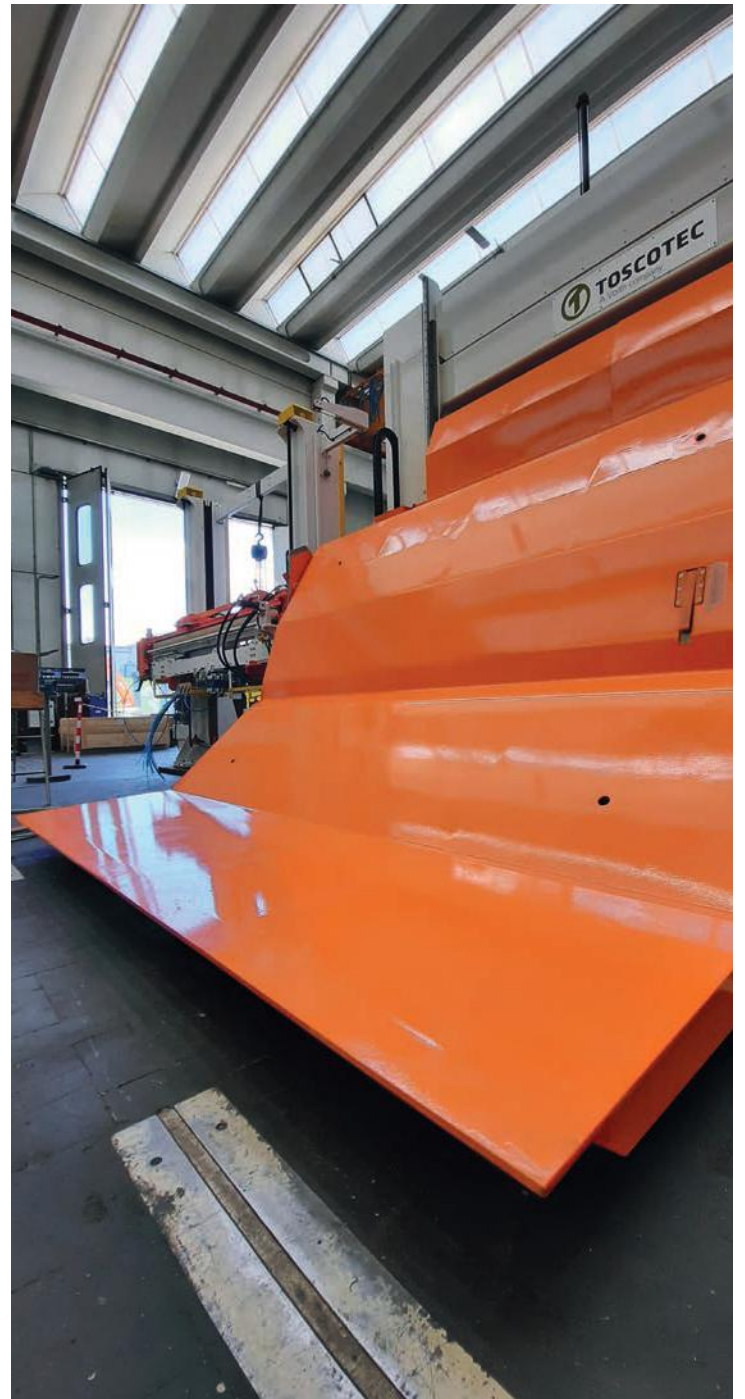
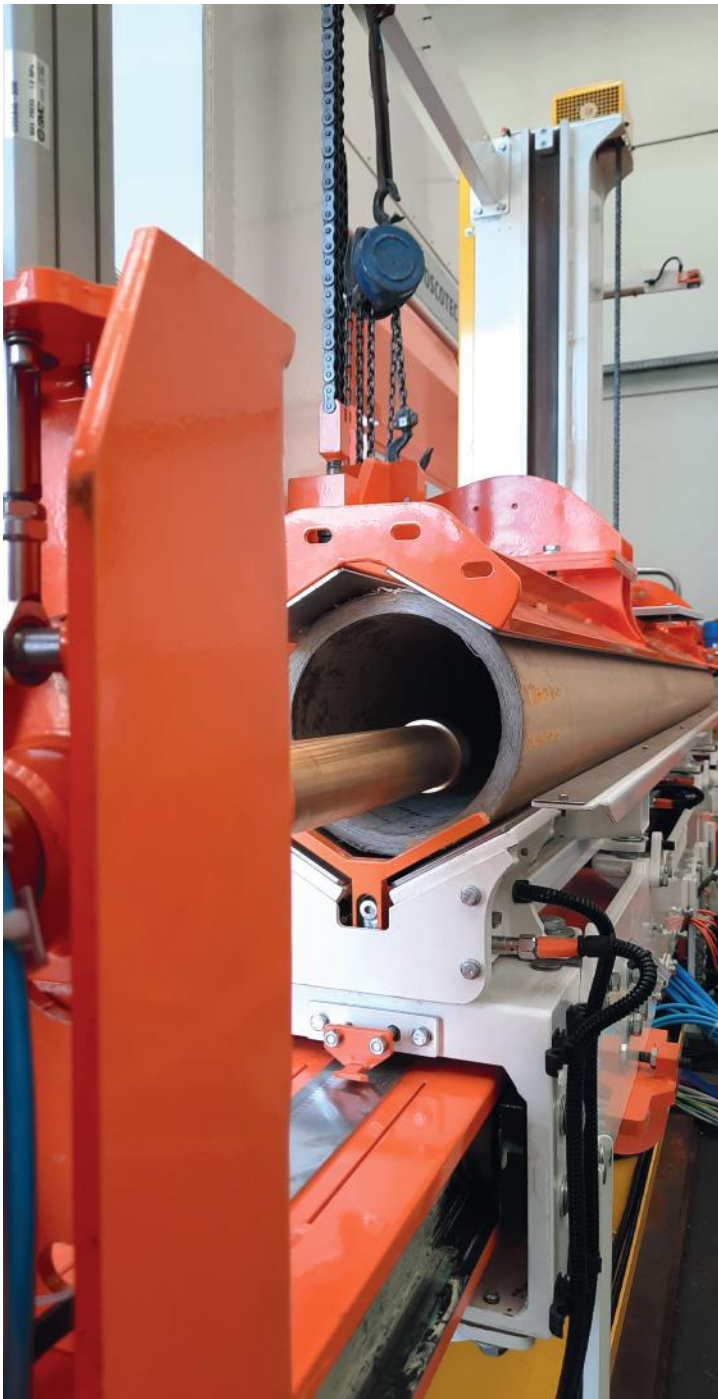
Higher production efficiency

OPTIMA control system delivers the highest operation accuracy by ensuring that the wound reels have the same length and density. Uniform reel density throughout the mill's working shifts results in an increase of winding efficiency and ultimately converting efficiency.

OPTIMA's nip control system and the consequent preservation of the bulk properties of the parent reels allow for a reduction of the creping ratio set on the tissue machine, thereby avoiding slowing down the tissue machine and reducing its daily production because of excessive elongation on the rewinder. This results in an increase in the overall efficiency of the tissue line.

The OPTIMA rewinder line can be equipped with a fully automated shaft puller, featuring compact design for easy transportation and installation in limited space, and optimal alignment between the wound reel and the puller.





TOSCOTEC'S TISSUE LINE EXCEEDS PRODUCTION TARGET AT EUROVAST GROUP.

Italian tissue manufacturer EuroVast fired up a new MODULO-PLUS tissue machine supplied by Toscotec at its Cartiera della Basilica paper mill in Villa Basilica, Lucca, Italy.

PM5 is running efficiently at the speed of 1,600 m/min and since its start-up in February, it has exceeded the project's production targets with excellent results in energy consumption.

The new line completely replaced the mill's existing PM5, a suction breast roll machine. The sheet width is 2,770 mm and the production capacity is over 30,000 tpy. It is equipped with a single press TT BlindDrilledPressRoll, a TT SYD and gas-fired TT Hoods. PM5 produces toilet tissue, kitchen towels and napkins from 100% pre-dried virgin pulp. EuroVast also purchased a complete service package including dismantling operations, erection, training, commissioning, and start-up assistance.

This is a repeat order for Toscotec, who in 2015 supplied another MODULO-PLUS tissue line to EuroVast's Cartiera della Basilica mill in Lugliano, near Lucca. This new line will increase the Group's production capacity to 150,000 tons/year.

Vincenzo Romano, owner of EuroVast S.p.A., says, "EuroVast supports its growth by investing in advanced technology. We also want our growth to be sustainable for the environment that is why we keep our focus on energy efficiency. PM5 meets our standards for quality and production, and our energy consumption targets. We have worked with Toscotec for many years, today's achievement is the outcome of the good cooperation between our teams."

Alessandro Mennucci, CEO of Toscotec, says, "Our partnership with EuroVast Group dates back over 20 years. That is why we are particularly pleased to see another Toscotec machine running efficiently at their mill today. EuroVast has very high standards of product innovation and quality and I believe that the performance and flexibility of this tissue line will meet their needs and serve as a key asset to support their growth in the market."



iT's Tissue!

6-10 JUNE 2022

2022 DATE ANNOUNCED FOR IT'S TISSUE

The iT's Tissue event planned for June 2021 has been postponed. The next edition of this unique global tissue industry platform from the Tissue Italy Network will take place 6-10 June 2022 in Lucca, Bologna, Reggio Emilia and Lecco.

Representing "The Convergence of Tissue Excellence", iT's Tissue has grown ever more influential since its launch in 2013. The decision to postpone reflects uncertainty over

travel arrangements in the light of the ongoing pandemic, combined with the desire to provide the best possible, hands-on experience for the visitors who attend iT's Tissue from all over the world.

The network companies and sponsors remain fully committed to iT's Tissue and look forward to providing an unrivalled global platform for tissue technology and networking in 2022.



TISSUE

TT NextPress

BEYOND THE STANDARD. BEHIND YOUR SUCCESS.

TT NextPress, the new extended nip press, exceeds the standards of a traditional shoe press for tissue industry. Timely control of two rows of hydraulic pistons divided into six independently adjustable pressure areas affords perfect adaptability of the system to the Steel Yankee Dryer profile, ensuring **optimal edge control**. Additionally, **automatic tilting adjustment** allows managing the NIP curve in different operating modes.

- 2 ROWS OF PISTONS
- 6 DIFFERENT INDEPENDENTLY CONTROLLED PRESSURE AREAS FOR BETTER EDGE CONTROL
- NIP LOAD UP TO 150 KN/M

A technology that offers concrete and measurable advantages in terms of bulk and energy savings. TT NextPress: another technological milestone. Toscotec: another instrument for your success.

YOUR NEEDS, OUR SOLUTIONS.



TOSCOTECH STARTS UP TWO AHEAD 2.0L TISSUE LINES

AT SOFIDEL AMERICA.

Two Toscotec-supplied AHEAD 2.0L tissue machines came online at Sofidel America's mill in Inola, Oklahoma. Shortly after start-up, the two lines met Sofidel's quality standards, and have been running at a high operation efficiency, producing premium quality tissue.

In spite of the Covid-19 pandemic and the challenges it posed, Toscotec and Sofidel went the extra mile and managed to successfully complete the project in record time.

Toscotec delivered a turnkey plant including two AHEAD 2.0L machines of 5500 mm sheet trim width, 2000 m/min operating speed, each producing 60,000 tons/year. These machines are equipped with TT SYD Steel Yankee Dryer and high-efficiency TT Hoods, designed for a high level of energy recovery.

The supply also included the stock preparation system, Toscotec's patented TT SAF (Short Approach Flow), the DCS and QCS, as well as the dust and mist removal systems. Toscotec also supplied the boiler plant, the compressed air station, the bridge crane, the shaft puller, the roll handling and wrapping systems, the chemical preparation system, the hall ventilation system, and the water treatment plants. Sofidel was provided with a comprehensive service package including the detailed mill engineering according to US codes and standards, the construction management, the plant and the machines erection, training, commissioning, and start-up supervision.

Luigi Lazzareschi, CEO of Sofidel, says, "Today's achievement steps up Sofidel's strategic coverage in the U.S. market. Technological innovation is key to our Group. It allows us to deliver the product quality and safety that build consumer trust, and it makes us honor our long-term commitment to sustainability. I applaud the hard work and strong cooperation of Sofidel and Toscotec that made today's success possible."

Alessandro Mennucci, CEO of Toscotec, says, "It is a great satisfaction to see that two top-of-the-line Toscotec machines achieved great performances at Sofidel America. This excellent result rewards us for all the efforts that our teams made together over the past three years. We look forward to continuing this important partnership with Sofidel in the coming years."



Endless care, innovative life.

the 1990s, the number of people in the world who are poor has increased. The number of people who live on less than \$1 a day has increased from 1.1 billion in 1981 to 1.5 billion in 1999. The number of people who live on less than \$2 a day has increased from 2.1 billion in 1981 to 2.5 billion in 1999.

There are many reasons for this. One reason is that the world's population has increased. The world's population has increased from 5 billion in 1981 to 6 billion in 1999. This means that there are more people in the world who need food and shelter.

Another reason is that the world's economy has not grown fast enough. The world's economy has not grown fast enough to create enough jobs for all the people in the world. This means that many people are unemployed and do not have enough money to buy food and shelter.

There are also many other reasons for this. One reason is that the world's resources are being used up. The world's resources are being used up so fast that there will not be enough resources left for future generations. This means that there will not be enough food and shelter for future generations.

Another reason is that the world's environment is being destroyed. The world's environment is being destroyed so fast that there will not be enough food and shelter for future generations. This means that there will not be enough food and shelter for future generations.

There are many other reasons for this. One reason is that the world's governments are not doing enough to help the poor. The world's governments are not doing enough to help the poor. This means that many people are unemployed and do not have enough money to buy food and shelter.

Another reason is that the world's people are not working together. The world's people are not working together to help the poor. This means that many people are unemployed and do not have enough money to buy food and shelter.

There are many other reasons for this. One reason is that the world's people are not sharing their resources. The world's people are not sharing their resources. This means that many people are unemployed and do not have enough money to buy food and shelter.

Another reason is that the world's people are not helping each other. The world's people are not helping each other. This means that many people are unemployed and do not have enough money to buy food and shelter.

There are many other reasons for this. One reason is that the world's people are not caring for each other. The world's people are not caring for each other. This means that many people are unemployed and do not have enough money to buy food and shelter.

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