

## **SUCCESS STORY**

Romanian MG TEC Industry aiming to be the no. 1 in tissue production. ANDRITZ was chosen to supply a complete turnkey line.



**PULP & PAPER**

**MG TEC INDUSTRY**

**TM1 & TM2, ROMANIA**

**ANDRITZ**

**ENGINEERED SUCCESS**





# City of delight: discovering the vibrant, charms of Dej, Romania

Unveiling the lively streets, enchanting illuminations, and vibrant nature of historic Dej, Romania

Nestled in the heart of Romania, Dej is a city that bursts with a kaleidoscope of vibrant colors. As you wander through its picturesque streets, you will be greeted by a symphony of hues that dance on the buildings' facades. The vibrant reds, oranges, and yellows infuse the architecture with energy and warmth, while the vivid blues and greens of the surrounding nature create a serene backdrop.

As the sun sets, Dej transforms into a magical wonderland of lights. Landmarks adorned with

colorful illuminations come alive, casting a spellbinding glow, adding an enchanting touch to the city's atmosphere.

## ROMANIA

Welcome to Romania, a vibrant country where history, nature, and prosperity intertwine. Since joining the EU in 2007, Romania has blossomed into one of Europe's fastest growing economies. As the largest of the Balkan countries, it embraces 19 million people and captivates with its diverse landscapes and castles.

Romania is blessed with abundant natural resources, fostering both economic and environmental growth. Its thriving agricultural sector yields bountiful harvests, while its vineyards produce exquisite wines.

Venture into the wild and encounter Romania's incredible wildlife. From graceful chamois to majestic eagles, from elusive wolves to noble brown bears, Romania's fauna captivates with its diversity. In Romania, vibrant colors paint a rich tapestry of landscapes, cultures, and flavors. Explore this dynamic land, where ancient traditions meet modern progress, and let the beauty and warmth of Romania leave an indelible mark on your heart.

## MG TEC INDUSTRY - A SYMBOL OF ECONOMIC DYNAMISM

MG TEC's 21st century greenfield mill makes a striking contrast to its historic neighbor, the ruins of a 16th century Kornis castle. It is an appropriate symbol of the cultural richness and economic dynamism of North-West Romania, where the mill is located near the historic city of Dej.



## ROMANIA

- Population: 19 million
- Size: 238,397 km²
- One of EU's fastest growing economies
- Rich culture and history
- Wealth of natural resources and agriculture
- Spectacular scenery and wildlife



# MG TEC Industry – a young business with distinguished tissue pedigree

Established in 2018 in Dej, Romania, MG TEC is a relatively new family business in the country's rapidly growing hygienic tissue market. However, it was launched by a team of entrepreneurs, who have nearly 20 years of experience in the industry, for example installing four new tissue machines before MG TEC was born.

With its two new state-of-the-art ANDRITZ tissue machines, MG TEC serves the consumer and away-from-home markets for all the main tissue categories: facial tissues, bathroom tissues, napkins, and kitchen towels. It supplies both converted, finished products and jumbo reels to the domestic market and for export. Sustainability, quality, and innovation are the driving forces behind the company's success.



Dorin Mocan, CEO, MG TEC Industry and  
Erwin Walcher, Senior Sales Manager, ANDRITZ

**"We were able to apply our knowledge from similar lines to achieve the very specific energy-savings and quality targets which MG TEC set for us."**

Erwin Walcher, Senior Sales Manager,  
ANDRITZ



**MG TEC  
INDUSTRY**

Established in 2018 in Dej, Romania, MG TEC Industry is a relatively young family-owned company in the country's rapidly growing hygienic tissue market



# A greenfield mill: A clean sheet for energy minimization

Significantly less energy and top quality: the brief for two new *PrimeLine* tissue machines in Romania perfectly matched ANDRITZ's strengths.

MG TEC is a relatively new business in Romania's rapidly growing hygienic tissue market. However, it was launched by entrepreneurs who have nearly 20 years of experience in the industry, for example installing new tissue machines before MG TEC Industry was established.

So when it came to ordering two new lines for the company's greenfield mill in Dej in northwest Romania, CEO Dorin Mocan, and the team knew what they were looking for as they considered the appropriate technology for this long-term investment.

With sustainability, innovation, and competitiveness at the top of the agenda, the key challenge MG TEC set for the machine builders was to achieve no less than a 15 percent reduction in energy consumption per tonne of tissue produced compared with the previous installations they had experienced. The closed-loop strategy that MG TEC has adopted, including the incineration of biological and deinking sludge

to generate process steam, just goes to show their dedication to sustainability and the circular economy.

### DEFINING THE ROUTE TO ENERGY SAVINGS

ANDRITZ was the only supplier able to define the route to such energy savings while providing high-level technology that could meet MG TEC's stringent product quality standards. Consumers in Romania demand soft, bulky tissue, while MG TEC's domestic and export jumbo reel customers also have high expectations, particularly for mechanical strength and reliable converting performance. As a new entrant to the market, the business needed to be particularly competitive, hence the need for minimum energy consumption, in addition to the significant sustainability benefits.

Following the successful startup of the first tissue machine in April 2021, the second 100 tpd/35,000 tpy line started up on schedule during the first quarter of 2023, with equally impressive results.

The scope of supply for the identical installations comprises a 2.85 m wide ANDRITZ *PrimeLine*COMPACT tissue machine with a design speed of 1,900 m/min, equipped with *PrimeFlow* single-layer headbox. The optimized step diffusor turbulence generator includes tube bundles with inserts for optimal formation over a wide range of headbox flow rates and consistencies. In combination with the optimized nozzle geometry, this produces the superior paper quality that is of critical importance to MG TEC. One special design feature is the low recirculation flow achieved thanks to the tapered header mounted directly on the headbox.

Moving along the line, the *PrimePress* single suction press roll features drive-side exhaust to facilitate felt and roll changes. ANDRITZ is renowned for its full range of press solutions, including the shoe presses with patented shoe loading system.

## THE TISSUE MACHINES

### Specifications

Design speed	1,900 m/min
Width, approx.	2,850 mm
Yankee diameter	15 ft.
Annual capacity	70,000 t

The 15-ft. *PrimeDry* Steel Yankee on MG TEC's two new tissue machines, combined with the *PrimeDry* Hood G (gas-heated Yankee hood), ensures efficient, safe drying. The *PrimeReel* comes with nip-load compensation to preserve the all-important bulk through the complete winding process. It also has a reel spool magazine to store reel spools and feed them to the reel via the reel spool lift to ensure efficient, automated operation.

### MG TEC IN BRIEF

#### ORGANIZATION

- Established in 2018
- Two *PrimeLine* tissue machines on a greenfield site

#### PRODUCTS

- Products for the consumer and away-from-home markets across all tissue categories
- Finished goods and jumbo reels for the domestic market and export

#### TOTAL CAPACITY

- 70,000 tpy







**COMPLETE TISSUE  
PRODUCTION LINE**

*PrimeLineCOMPACT* tissue machine  
with stock preparation system, fabrics  
and rolls, pumps, and automation





**"The machine is very compact, with short flows, which is also good for maintenance."**

Dorin Mocan,  
CEO, MG TEC Industry, Romania

The scope includes *PrimeDustEXT* dust extraction and *PrimeMistEXT* mist extraction. Automation, digitalization, and electrification were part of the turnkey package, as were all pumps and the hall ventilation.

ANDRITZ pumps for tissue production fulfill the highest expectations in terms of efficiency, lifecycle, maintenance friendliness, and economic efficiency. Particularly noteworthy are the headbox pumps of the ASP series, which achieve efficiencies of over 90% with their pulsation-optimized hydraulics. The pumps can be equipped with a sensor concept that is unique on the market. This makes it possible to control the operating mode of the pumps, obtaining important information on the process and on operation under different conditions. MG TEC is using the Metris All-in-One Platform for real-time monitoring of energy consumption and plant efficiency as well as enhanced process solutions to optimize production and ensure maximum quality control. All service work and post-startup optimization can be conducted through the Metris Performance Center, located at ANDRITZ's headquarters in Graz, Austria, thus bringing additional cost and time savings.

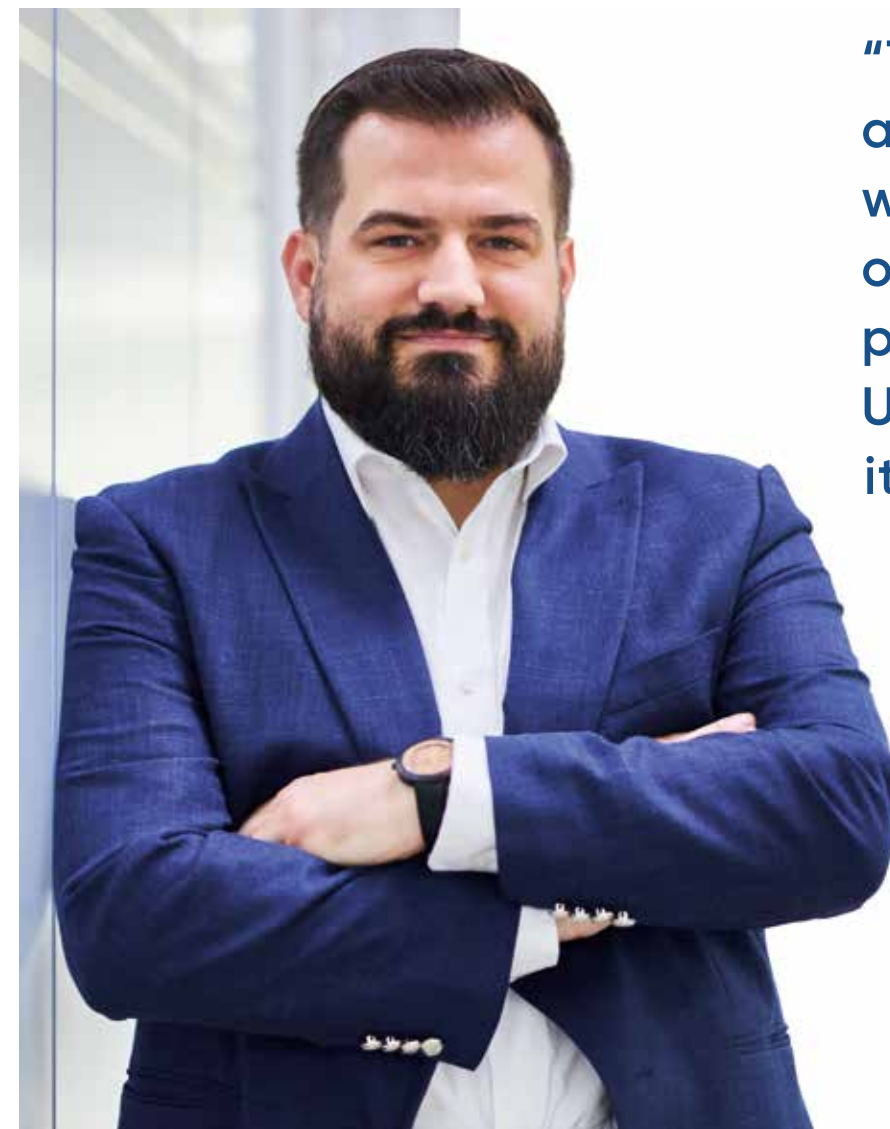
#### STOCK PREPARATION

The complete ANDRITZ stock preparation system and broke handling includes a single pulper and state-of-the-art TwinFlo TF20 disc refiner technology to optimize fiber properties, using the wide variety of fillings available. One refiner is dedicated to softwood while the other is a flexible swing refiner for both hard and softwood fiber. The ANDRITZ ShortFlow approach allows MG TEC to take advantage of very low storage volumes, enabling fast grade changes: the advanced control of stock blending includes a combined machine and blending chest with a short retention time. The system was completely pre-engineered as part of the turnkey package to reduce capital and operating costs. In terms of stock preparation, one requirement was furnish flexibility. The two ANDRITZ tissue machines have proved to be capable of handling recycled fiber from MG TEC's existing deinking line without excessive dust, while also allowing an increase in the use of short fiber pulp to more than 70 percent in the virgin-fiber mix. "We have changed our hardwood pulp to eucalyptus to increase quality, but the machines will run well and offer good control over the paper profile with any furnish," says CEO Dorin Mocan.



#### KEY FEATURES - *PrimeLineCOMPACT*

- *PrimeFlow* single-layer headbox
- *PrimePress* single suction press roll
- *PrimeDry* Steel Yankee
- *PrimeDry* Hood G
- *PrimeReel*
- *PrimeDustEXT* dust extraction
- *PrimeMistEXT* mist extraction
- ANDRITZ pumps for tissue production
- Metris All-in-One Platform



**"The team and structure at ANDRITZ adapted well to our needs and our way of working. The pandemic and conflict in Ukraine have not made it the easiest period to undertake a two-machine project but it has been a big success for us and for ANDRITZ."**

Dorin Mocan,  
CEO, MG TEC Industry, Romania





#### ROLL COVER AND MACHINE CLOTHING: PERFORMANCE AND SUSTAINABILITY

Machine clothing consists of WeCare *Prime* forming fabrics that enable excellent formation, maximum machine efficiency, and top sheet quality. The StrataPress T press felts offer sustainable dewatering performance and energy savings at high machine speeds. Using recycled polyamide materials for our press felts helps to reduce the carbon footprint. With its textile recycling activities and pilot plants, ANDRITZ Fabrics and Rolls perfectly supports the circular economy approach of customers such as MG TEC. The two Polysoft PU suction pressure roll covers bring engineered surface venting for improved sheet dryness and longer running times compared with conventional rubber covers.

#### DAILY GRADE CHANGE

Having two high-performance tissue machines, MG TEC can now dedicate one line to away-from-home (professional) tissue and the other to consumer products. Supplying tissues ranging from facial and bathroom tissues to napkins and kitchen towels, the mill appreciates the grade-change flexibility the *PrimeLineCOMPACT* machines offer – daily grade changes are quite normal for the mill.

“It was clear from its design that the ANDRITZ machine was especially engineered to achieve our strict target for energy consumption,” says CEO Dorin Mocan. “The machine is very compact, with short flows, which is also good for maintenance. And various aspects, including the hood control system with automatic dampers, reassured us that the technology was designed to meet our needs and requirements. As a result, we can now produce consistent quality with a low energy consumption.”

CEO Dorin Mocan was also pleased with the outcome of the installation and startup: “ANDRITZ adapted its team and structure well to our needs and our way of working. The pandemic and conflict in Ukraine have not made it the easiest period to undertake a two-machine project, but it has been a big success for us and for ANDRITZ.”

It was certainly successful as far as ANDRITZ is concerned. “We were able to apply our knowledge from similar lines to achieve the very specific energy savings and quality targets that MG TEC set for us,” says ANDRITZ Senior Sales Manager Erwin Walcher, who has been working in close cooperation with MG TEC throughout the project. “Our expertise in all aspects of tissue technology enabled us to take a

holistic approach to energy efficiency in this turnkey installation. Thanks to the compact design of the headbox, the optimally engineered suction press, the state-of-the-art steel Yankee, and the gas-heated hood, right down to the design of the felts and fabrics and many other aspects, we have been able to achieve to class-leading efficiency without compromising the end product.”

**“Our A to Z competence with tissue technology enabled us to take a holistic approach to energy efficiency in this turnkey installation.”**

Erwin Walcher,  
Senior Sales Manager, ANDRITZ



*PrimeLineCOMPACT* tissue machine with a design speed of 1900 m/min



*PrimeReel* comes with nip-load compensation



## LIVING WITH THE LINES

With both tissue machines now running, it is the day-to-day experience of operating them that provides the greatest evidence of their effective design. We have already mentioned the low dust level with recycled fiber. Another feature of the *PrimeLineCOMPACT* design is the low mist. As Erwin Walcher puts it: "Good housekeeping is the basis for high machine efficiency."

Through *PrimeService* and the Metris Performance Center, MG TEC can be sure of obtaining the service and parts it requires, as well as the necessary tests such as testing the static and dynamic press rolls, checking crowning during operation, and analyzing the bearing condition to ensure the machines run smoothly.

As the MG TEC case study testifies, ANDRITZ has the knowledge, skills, and experience to provide optimum solutions for complete turnkey tissue lines. However, the company also has a formidable reputation for rebuilds and the provision of key components. So what comes next for MG TEC? Having installed two *PrimeLine* tissue machines since the ground-breaking ceremony for their greenfield site in 2019, it is perhaps time to consolidate their achievements before considering the next move in one of the EU's fastest-growing economies. The vision of the company's founder was to establish a modern, technically advanced, and sustainable business for the next generation to take forward. This has clearly been fulfilled with the installation of two supremely efficient, high-performance tissue lines with associated stock preparation.

"The next investment, in due course, might involve dedicating one tissue machine to recycled fiber. Another possibility might be colors," suggests CEO Dorin Mocan. ANDRITZ's extensive pilot facilities will always be available to test the options, as one would expect from a strong and experienced partner to the world's tissue industry.



**INSPECTION OF  
THE TISSUE ON  
THE PrimeReel**

*PrimeReel comes with nip-load compensation to maintain the all-important bulk through the complete winding process*







## DISCOVER OUR FULL-RANGE PORTFOLIO FROM FIBER PROCESSING TO PAPERMAKING

An outstanding paper product requires outstanding production – matched with the particular needs of raw material and final product. Discover the full-range portfolio from ANDRITZ: Excellent stock preparation that allows best fiber development according to furnish and with economical use of resources. *PrimeLine* paper machines that are a synonym for producing top-quality tissue, paper, and board grades. Complete lines or single units, upgrades, and modernizations. Contact us and benefit from your individual package in papermaking technology.

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**CLICK HERE**

to get to know our technologies  
and services for tissue



# ANDRITZ

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