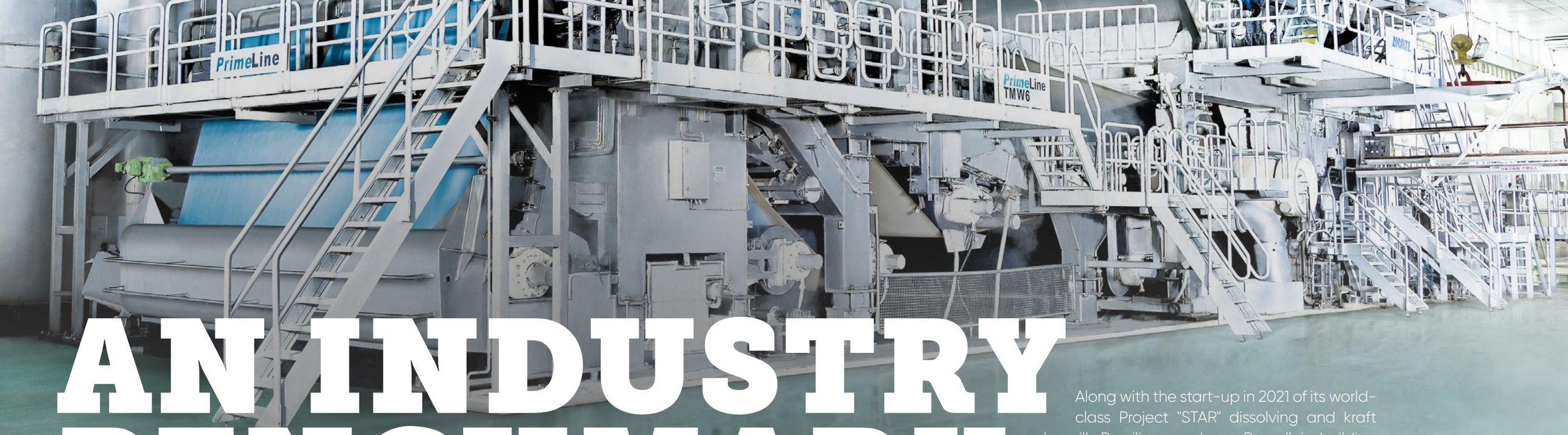

AN INDUSTRY BENCHMARK IN THE MAKING

Along with the start-up in 2021 of its world-class Project "STAR" dissolving and kraft pulp mill, Brazilian producer Bracell is building another of the world's largest and greenest on the same site – this time a tissue mill with four of the latest ANDRITZ *Prime*LineTM tissue machines. The mill is set to become a benchmark for efficiency, quality, and environmental performance in the global industry.

BRACELL'S PROJECT TISSUE

What better place to build a state-of-the-art tissue mill than next to one of the world's largest and most sustainable pulp mills? This is just what Brazilian producer Bracell has done with its Project Tissue, taking advantage of what is essentially free steam and power and with slush fiber being pumped straight from the pulp mill next door. Furthermore, Bracell's development at Lençóis Paulista, located in São Paulo state, is close to the commercial and domestic center of a burgeoning market for its products.

"The new tissue mill is being built right alongside Bracell's Lençóis Paulista Project 'STAR', a giant in the eucalyptus pulp industry as well as being one of the highest performing mills in the world when it comes to sustainability," says Marcelo Montanhese de Lima, Bracell Tissue Project Manager. "The positioning of the new tissue mill is perfect for supplying the growing Brazilian domestic tissue market, being just 300 km from the commercial center of the city of São Paulo.

The project is a highly ambitious one, with four double width ANDRITZ *Prime*LineTM tissue machines being fully integrated with the pulp mill, using slush bleached pulp, green steam with zero fossil fuels, and clean electricity from both wood and solar panels. In fact, the mill has Latin America's largest installed base of solar panels on the roof.

TARGET: "TO BE THE GREENEST AND MOST EFFICIENT TISSUE OPERATION IN THE WORLD"

In mid 2022, ANDRITZ was contracted to build the new tissue mill on an EPCC basis, which meant it was responsible for the complete planning, engineering, construction, and erection at the site as well as supplying the latest *Prime*Line tissue technology for the production of 240,000 t/y of the highest quality tissue.

The four tissue machines, *Prime*LineTM W 2000s have a design speed of 2,100 m/min and working widths of 5.68 m, and capacities of 60,000 t/y each. All four machines are equipped with fully cantilevered shoe presses for gentle dewatering and easy maintenance as well as 18 ft steel Yankees with steam heated hoods for energy-efficient drying.

The lines will produce all types of high-quality household paper, including toilet paper, napkins towels, and facial tissue.

"With its self-sufficiency in steam and electricity from the pulp mill for the drying process, and the ultra-energy efficiency from ANDRITZ's technology the mill will reach our target of being the greenest and most efficient tissue operation in the world," continues Montanhese de Lima.

Günter Offenbacher, Director Sales, Tissue, ANDRITZ says, "We already have a very successful relationship with RGE, owner of Bracell, with three *Prime*Line tissue machines recently installed at its Asia Symbol operation in China, so we got off to a good start. The Bracell order for four machines on an EPCC basis has meant a lot of responsibility for ANDRITZ. In fact, it was the largest order we have ever had for our tissue business, but it also represented a win-win for both parties as there were significant savings in resources, at the same time as enabling both companies to grow in a significant way.

"One important factor in this project is that both Bracell and ANDRITZ have a focus on CO_2 reduction and sustainability. With Project Tissue we can proudly claim that this is one of the most sustainable installations in tissue that has ever been realized."

LEADING TECHNOLOGY FOR SUSTAINABLE PRODUCTION

The tissue production technology supplied by ANDRITZ fits perfectly with Bracell's target of being the most efficient and sustainable tissue mill. From stock preparation with its very low energy consumption and emphasis on fiber quality, to its *Prime*Press XT Evo shoe press designed for maximum efficiency and further on to the implementa-

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Arrival of the *Prime*Dry Steel Yankee (18 ft diameter) for tissue machine #1.


The tissue project will be realized directly next to the pulp project "STAR".

On December 21st, 2023, ANDRITZ proudly completed one million hours of construction work without a single lost-time accident.

tion of a closed water loop to minimize fresh water consumption.

Offenbacher explains, "In the case of stock preparation, this is an area where we are market leaders. This area is so important to supporting the ultimate operation of the tissue machine and the final quality of the tissue. Here our system refines with very low energy at the same time as delivering consistently good quality fiber. The shoe press, with the fully cantilevered concept, has been proven with many successful references all over the world and underlines our forerunning position on health and safety, as well as ease of maintenance.

"In a nutshell, our stock preparation solutions, along with our steam hood technology and steel Yankee combined with the shoe press, reduce energy consumption to the utmost lower level."

All four tissue lines will also be equipped with Metris X – ANDRITZ's integrated distributed control systems (DCS), which will ensure optimal plant operation. The combination of advanced data analytics, an automatic condition monitoring system, integrated advanced process controllers, Augmented Intelligence (AI), and the implementation of digital twins and training simulators will support the rapid commissioning and further optimize operation of the tissue lines throughout their lifecycle.

Sergio Montanha, Head of Tissue Operations, Bracell says, "The implementation of digitization via the Metris suite will bring us advantages over our competitors in Brazil. The technology will enable higher productivity and our team will be able to monitor production in real time and avoid losses in performance."

Offenbacher adds, "These new tissue lines at Bracell are equipped with some of the highest levels of digitalization in the world, and we are well on the way to autonomous operation. The installation and optimization of Metris X will lead to a significant increase in efficiency of the operation as well as a continued reduction of the carbon footprint at the mill."

Montanhese de Lima comments, "At first, we had a question mark over an EPCC project of this kind, but it has turned out just fine, and with ANDRITZ we have quickly resolved any challenges that have come along. All in all, this has been a fascinating project."

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SCOPE OF SUPPLY

Energy self-sufficient tissue production, reducing CO_2 footprint to a minimum; fully cantilevered shoe presses, steel Yankees with steam-heated hoods, and a high degree of Metris digitalization. One of the largest orders in the tissue industry so far.

- Four complete tissue production lines – from stock preparation to the reel, including fabrics and rolls, pumps, digitalization, services, and maintenance with *Prime*LineTM W 2000 tissue machines.
- One of the largest orders/projects in the tissue industry so far, and THE largest project for ANDRITZ Tissue.
- EPCC project (greenfield mill)


Four complete tissue production lines – from stock preparation to the reel, including fabrics and rolls, pumps, digitalization, services, and maintenance with *Prime*LineTM W 2000 tissue machines.