

PaperAge

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SAPPI

From a single mill in South Africa, Sappi has evolved to become one of the largest producers of pulp, paper, packaging and specialty papers in the world

Containerboard/OCC

Early January sees light activity and flat pricing for OCC as China demand is quiet



Looking Good at 82

From a single pulp and paper mill producing paper from straw in 1938, Sappi has evolved into a global provider of dissolving wood pulp, packaging and specialty papers, and graphic papers, as well as biomaterials and biochemicals.

By John O'Brien, Managing Editor

Sappi is an expansive company. It produces dissolving wood pulp, paper pulp, printing papers, packaging and specialty papers, casting and release papers, along with biomaterials and bio-energy. With nearly 12,000 employees in over 20 countries and manufacturing operations on three continents — seven mills in Western Europe, three mills in the United States and four mills in South Africa, Sappi has the capacity to produce about: 5.4 million tons per year (tpy) of paper; 2.3 million tpy of paper pulp; and 1.3 million tons per year of dissolving wood pulp. The company's products are sold and distributed across more than 150 countries.

However, the South African based pulp and paper producer got its start with the construction of a single pulp and paper mill immediately following the establishment of South African Pulp and Paper Industries Limited on December 17, 1936. The company name soon thereafter was abbreviated to 'SA Pulp', but would eventually become Sappi — as it is known today.

Construction of that first pulp and paper mill — Enstra Mill — began on land near Springs, a suburb near Johannesburg, South Africa. The mill, which had an original design capacity of 14,000 tpy, began producing paper in 1938, first using a straw-based pulp as furnish. Interestingly, not only was straw used as the mill's primary fiber furnish, it was also behind the mill's name: **ENTERPRISE STRAW**. In 1948, the Enstra Mill eliminated straw as its raw material and the mill was adapted for pulping wood (pine). Years later (end of 1960s), it was the Enstra Mill where Sappi developed its pioneering Sapoxal oxygen bleaching process. The mill was also the first to produce elemental chlorine-free pulp (ECF) using this process.

Over the next thirty or so years, Sappi grew through the addition of mills, paper machines and mill expansion projects. During the late 1940s and into the 1950s, the company also began to establish tree plantations giving way for its paper machines to produce paper from wood instead of straw.

In 1973, South African Pulp and Paper Industries Limited re-registered as Sappi Limited. During this period of time, Sappi would experience greenfield developments, acquisitions, significant production capacity expansion at a number of its mills, and the introduction of ozone bleaching at Ngodwana Mill (South Africa), which first began operation in 1966 producing kraft pulp.

SAICCOR

What might be one of the most prominent deals in Sappi's history took place in September of 1988, when it acquired Saiccor (South African Industrial Cellulose Corporation) from Courtaulds, a UK-based textile and chemical company; and South Africa's Industrial Development Corporation. Not only was the pulp mill immediately profitable due to Sappi's knowledge of the pulp production process, it also paved the way for Sappi to enter the dissolving pulp (DWP) market.

Saiccor Mill, located in Umkomaas, South Africa, was producing just over 1,000 tons per day of pulp when Sappi took ownership. At that time, a local newspaper, the South African Industrial Mirror, said of the deal, "This latest expansion can be seen as the most important milestone in Sappi's history and transforms the company into one of the two mega powers in the South African industrial arena."

COATED FINE PAPER

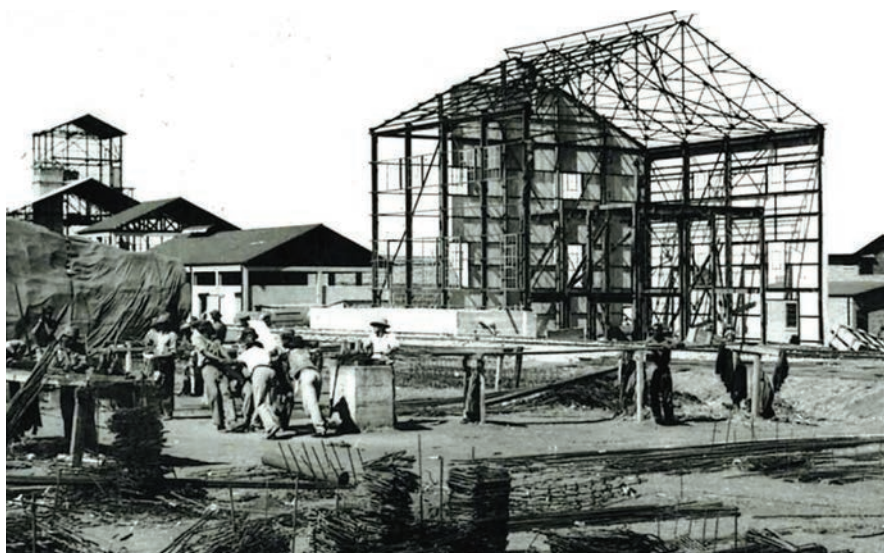
Through the 1990s, Sappi's focus moved to coated fine paper, acquiring five fine paper mills in the UK, Hannover Papier in Germany, gained a controlling stake in S.D. Warren (the largest producer of coated fine paper in the U.S., and acquired KNP Leykam, Europe's largest producer of coated fine paper. Sappi Europe was also established.

Entering 2000, Sappi continued its expansion of coated fine paper capacity with the 2002 acquisition of Potlatch's coated fine paper business along with its Cloquet pulp and paper mill in Minnesota. In Europe, Sappi bought M-Real's coated graphic paper business in 2008.

However, Sappi had to counter its acquired coated paper capacity with closures of a number of older, less profitable mills from 2000 - 2012 as a result of the structural decline in demand for coated fine paper worldwide.

DISSOLVING WOOD PULP

Sappi Specialised Cellulose, a division of Sappi, is the world's largest manufacturer and seller of dissolving wood pulp (DWP). Its production of DWP is split between its two South African



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mills, Saiccor and Ngodwana and the Cloquet Mill in Minnesota. Combined, these three mills can produce more than 1.3 million tons of DWP per year, accounting for 17% of global demand.

Saiccor Mill is situated 50km south of the port of Durban in Umkomaas, a small town in the province of KwaZulu-Natal. With a capacity of 800,000 tpy of sulphite DWP, it is the world's single largest manufacturing site for DWP.

Ngodwana Mill started producing DWP for global markets in 2013. Its current capacity is 210,000 tpy of prehydrolysed kraft DWP produced from 100% eucalyptus hardwood, sustainably sourced from suppliers near the mill in the province of Mpumalanga. A fully integrated kraft mill, in addition to DWP the mill produces paper grade pulp for its own consumption, newsprint and containerboard.

Cloquet Mill started delivering DWP to the market in 2013 following the conversion of its kraft pulp facility – over a century after the original mill opened on the banks of the St Louis River in Minnesota in 1898. It now has the capability to produce 330,000 tons of kraft DWP per year, sourced from mixed northern hardwoods – mainly aspen and maple. The Cloquet mill also specializes in coated free sheet graphic paper and bleached chemical pulp.

A BUSY 2017

In 2017, Sappi was busy laying out the groundwork for its future. In February, the company announced an investment of \$165 million to rebuild Paper Machine No. 1 at the Somerset Mill in Skowhegan, Maine. The project's purpose is



Cloquet Mill in Minnesota has an annual production capacity of 340,000 metric tons of coated woodfree paper and 340,000 metric tons of dissolving wood pulp. The mill can swing production between paper grade pulp for internal consumption and dissolving wood pulp (DWP) for the open market.

to increase PM No. 1's production capacity by 180,000 metric tons per year while enabling the machine the flexibility to produce a variety of consumer packaging grades.

Mark Gardner, President and CEO of Sappi North America, commented, "Somerset's existing world class infrastructure together with its talented workforce and access to high quality fiber makes the mill an excellent and obvious choice for this investment. Increasing our flexibility and expanding the paper mill's capability and capacity will ensure that we continue to make superior products at Somerset for years to come."

The planned project is slated to come online early in 2018.

Packaging and Specialty Papers

At about the same time as the Somerset Mill investment, Sappi announced a range of projects in Europe to take place between 2017 - 2019 that included: expanding lightweight packaging and specialty paper capacity at Alfeld Mill in Germany; conversion of Maastricht Mill in The Netherlands to produce high quality solid bleached board; and a transition of production on PM8 at Lanaken Mill in Belgium over three years to support coated woodfree business.

Specifically, Sappi Europe plans to grow its packaging and specialty papers business by converting its Maastricht Mill to a high quality solid bleached board facility and by expanding the lightweight packaging and specialty papers capacity of its Alfeld Mill by 10,000 tpy. Sappi said it expects the SBB

business at Maastricht Mill will grow to 150,000 tpy in the next three years. The displaced graphic paper volumes will be assigned to other mills, Sappi noted.

The rapid growth of Sappi Europe's packaging and specialty papers capacity will also be supported by Sappi Ehingen Mill, while Sappi Lanaken Mill's PM8 will progressively transition to coated woodfree production over the next three years in line with the expected decline in the coated mechanical market.

Berry Wiersum, CEO of Sappi Europe, explained, "These projects will enable us to make better use of our assets to drive growth in specialty papers, as well as to reduce by 2020 our

coated graphic papers capacity by about 200,000 tons."

During the fall of 2017, Sappi completed a \$5.94 million capital investment at the Cloquet Mill, replacing the headbox on Paper Machine 12. The project enabled the mill to maintain its capacity by adding a state-of-the-art, dilution profiled headbox. Just four years earlier, Sappi invested \$170 million to enable the Cloquet Mill's kraft pulp operations to also produce kraft DWP.



Gratkorn Mill produces 980,000 tonnes of high-quality double and triple coated papers annually and 250,000 tonnes of totally chlorine free (TCF) chemical pulp for its own consumption. It has an annual sheet finishing capacity of 875,000 tonnes. About 95% of the mill's production is exported.



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800,000 tpy.

With 2017 nearing its close, Sappi in early December announced it had signed an agreement to acquire the specialty paper business of Cham Paper Group Holding AG (CPG) for CHF146.5 million (approximately \$149 million). The deal includes the acquisition of CPG's Carmignano and Condino Mills in Italy, its digital imaging business located in Cham, Switzerland, as well as all brands and know-how. Sappi expects the deal, which is subject to the approval of certain competition authorities, to be completed during the first calendar quarter of 2018.

Steve Binnie, CEO of Sappi Limited, commented, "This acquisition further strengthens Sappi's specialty paper business both in Europe and globally by combining Cham's strong brands and assets with Sappi's global reach. This transaction will increase profitability and unlock the significant growth and innovation potential inherent within the specialty paper market."

Increasing Production of DWP

Sappi continued to make news in mid-December when it announced plans to significantly increase its capacity for the production of dissolving wood pulp by 2020. More specifically, Sappi has started preparatory work for the potential expansion of Saiccor Mill to ensure that the company would be in a position to increase the mill's capacity by up to 250,000 tpy to meet "strong projected demand growth."

In order to accomplish the boost in DWP production, debottlenecking projects will increase Saiccor's capacity by 10,000 tpy by the end of 2018. In addition, work has also started on increasing the mill's chipping capacity and modernizing its wood yard, with new equipment scheduled to be delivered and installed at the end of 2018. Start-up planned for January 2019. According to Sappi, the wood yard optimization will result in cost, quality, environmental and efficiency benefits to Saiccor and is a key element towards preparing the mill to expand production by a further 250,000 tpy.

Currently, Sappi is engaged in prep work to enable it to

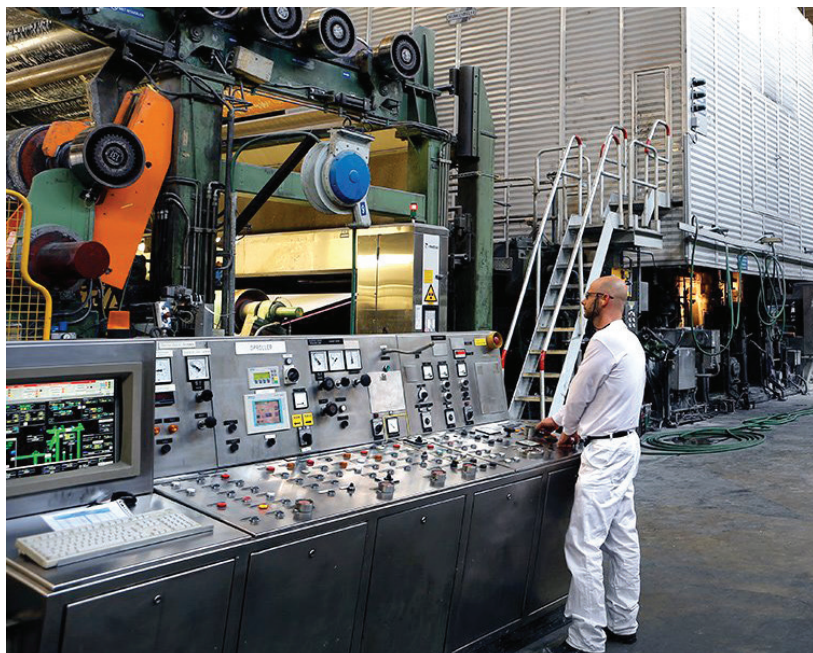
initiate the pre-requisite EIA (environmental impact assessment) process to study potential impacts, gather community input and model new technology benefits of Saiccor's proposed capacity expansion, which would increase the Saiccor Mill's total DWP capacity to over 1 million tpy.

Also on the DWP front, Sappi is in the process of expanding the capacity of its Ngodwana Mill by 50,000 tpy through debottlenecking projects. This work is scheduled for completion by August 2018.

Last but certainly not least, Sappi is completing a study regarding the expansion of pulping capacity at the Cloquet Mill that would fall within the mill's existing permit limits, maintaining its ability to make either DWP or Kraft pulp. Sappi foresees such an expansion would have the capacity to increase DWP production by around 30,000 tpy and could be brought on line by mid-2019.

Beyond pulp and paper, Sappi is developing new bioproducts and markets from wood chemistry, involving nanocellulose, lignin, and hemicellulose sugars.

Sappi has come a long way from making paper from straw at a lone pulp and paper mill in South Africa some 82 years ago. That mill faced many challenges but managed to overcome them through hard work, perseverance and foresight – attributes Sappi still carries with it today.



Maastricht Mill in The Netherlands will play a key role in Sappi's plans to grow its packaging and specialty papers business. The mill produces graphic board and packaging board, along with coated woodfree paper. Sappi plans to convert the mill to a high quality solid bleached board facility by the second quarter of 2018.