

# TWM

TISSUE WORLD MAGAZINE

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## AMERICA'S ELECTRONIC INTELLIGENCE.

PIONEERING  
ITS NEW  
FRONTIER

Plus ...

### MarketIssues

Digital integration – the path  
to 'huge' growth

### ExitIssues

China's new RCP policies  
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FrontIssues

# TISSUE EXECUTIVES NEED A GOOD NIGHT'S SLEEP... WE'RE DOING OUR BEST TO HELP

Helen Morris

Senior Editor, Tissue World Magazine

**H**aving long claimed the top spot in the global market, the USA tissue industry's search for new revenue streams of growth remains intense. This edition of TWM lays out that search at the micro- and macro-levels.

We report from the Green Bay tissue hub where a dynamic, relatively new to the business boss is relishing growth of 20%, even as America's growth is by comparison a sluggish 1-2%. The reason for his optimism ... a full embrace of technology, offering financial support for schooling for several of his personnel to attend night school to become electrical or mechanical engineers. The future, he says, is electronic intelligence, robotics and Human-Machine Interface.

The fundamentals of US tissue have changed significantly in the last few decades. They are changing rapidly still. So what stands out today from our macro assessment of the US?

The country with the most advanced tissue machines and intensive tissue consumption – at 25kg per person each year – is seeing the rise of private label, which is forecast to reach 30% of all retail tissue sales by 2023.

E-commerce is transforming retail trends. Consumers spent about \$517bn online, up 15% from 2017. Millennials make up more than one-quarter of the population and are the largest consumer group. They are largely indifferent to brand names, favour private label products, and insist of sustainability.

The economy has enjoyed a remarkable long-term recovery since the 2008 crash. Inflation is very low and unemployment at all-time lows. But a significant proportion of that employment is low paid. A new grouping has emerged ... the working poor. GDP growth has been slow, but still appeared to be at a much trumpeted and symbolic 3%, until the government adjusted 2018 growth estimates from 3 to 2.5%.

It's patchily impressive in the midst of the current global trade restrictions and tariff impositions. On that subject, top US investment banks have predicted the intensifying trade war between the US and China raging deep into 2020, with little prospect of a trade deal being struck before the US presidential election in November 2020. One essential phrase when dealing in economic forecasting, and with this administration in particular, is 'at the time of writing.' So we'll wait and see.

Fisher International carried out an analysis called "Issues Keeping Tissue Executives Up at Night". It's the usual suspects ... pulp prices – now eased, tissue mill integration, e-commerce, new technology and capacity, sustainability, energy costs, Millennials' buying preferences, the industry's urgent need for new, young innovators like those students going to night school. The US tops the list today, but future consumption rates could go down as well as up. TWM's *Country Report* on the home of tissue and its way ahead talks through those issues.

## Path to the digitally integrated mill of the future

Alexander Wirth in *MarketIssues* asks searching questions of the industry. Research by StepChange Consulting, where he is senior manager, finds:

- 40% of responding tissue producers are engaged in Industry 4.0 projects;
- but more than 50% of the study participants are not;
- while digitalisation is a priority topic, the highest benefits will come from supply chain cost reductions;
- top barriers to digitalisation are operational – internal awareness, unwillingness or inability to change existing processes, IT systems and infrastructure, identifying opportunities and calculating ROI, and ensuring data security and protection.

He concludes that the huge estimated potential of optimising benefits should be convincing enough to engage in this huge project, and to take the next step towards the digitalised mill of the future.



# DIGITALISATION AND ITS INTEGRATION – KEYS TO REACHING GLOBAL TISSUE'S 'HUGE POTENTIAL'

In a major analysis of costs and technology trends across world markets, senior manager Alexander Wirth at StepChange Consulting urges a greater embrace of the digitalised mill of the future.

MI



**Alexander Wirth**  
Senior manager, StepChange Consulting

Since the 2009 recession, global demand in the tissue sector has been growing relatively stably between 3% and 4% each year. Limited but stable growth can be observed in developed countries, which is mainly linked to a steady population growth. The major driver for global growth of tissue consumption between 2007 and 2017 was China, which accounted for 41% of the total growth share. However, there is surplus tissue production capacity in the market, which drives competition within the global tissue industry.

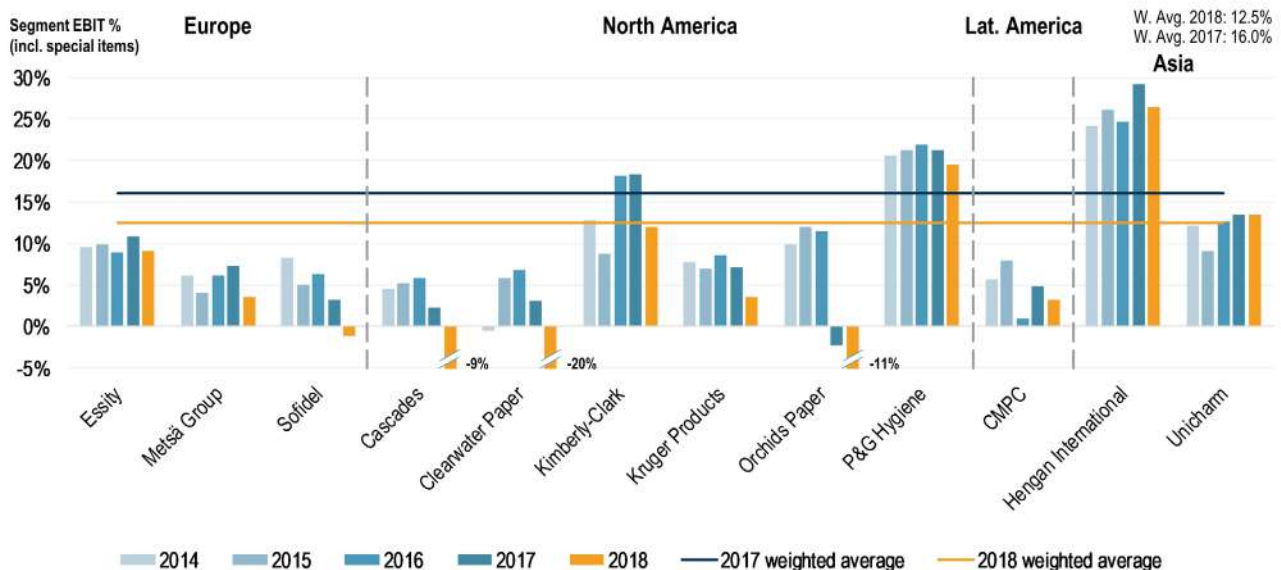
The following figures are the most recent tissue peer group benchmark results, based on financial year 2018 annual reports, among 12 global tissue players:

- The overall peer group average shows

the worst results since 2013;

- The EBIT margin dropped from 16.0% in 2017 to 12.5% in 2018;
- Four companies reported a negative EBIT and none of the companies improved results in 2018 compared to 2017.
- The gap between the best and the worst increased significantly in 2018 from ~30pp to over 45pp;
- While two companies were able to keep EBIT margins above 15-20%, three reported negative results 10-20%;
- The five-year EBIT % average is still positive; however, majority of players are already below 10%;
- The five-year compound annual growth rate (CAGR) is positive for the majority of the players (Figure 2: Tissue Segment-only 5-years EBIT average vs. CAGR);

## Segment-only EBIT % of tissue segments (incl. special items)<sup>1) 2)</sup>

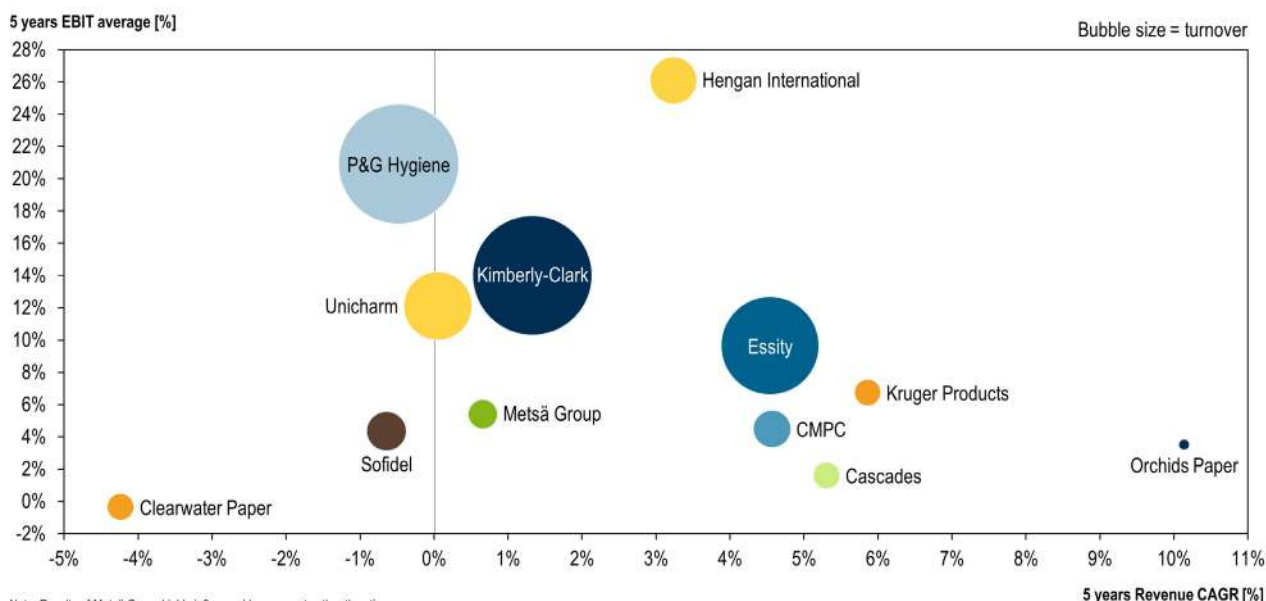


Tissue segment: Metsä Group: Tissue and Cooking Papers; Cascades: Tissue Papers; Cleanwater Paper: Consumer products; CMPC: Tissue; P&G Hygiene: Baby, Feminine & Family care  
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**Figure 1:** EBIT % of tissue segments of companies



## Segment-only EBIT average [%] vs. Revenue CAGR [%] 2014-2018<sup>1)</sup>



**Figure 2:** Tissue segment-only five years average EBIT-margin vs. compound annual growth of revenue

- The five-year average EBIT margin ranges between 0% and 25%, which is a considerable range.

These figures show that the tissue segment faced challenging times, especially in the last year. The tissue industry, as a mostly non-integrated industry, suffered from high pulp prices in 2018, which negatively impacted margins. Considering that pulp accounts for more than two thirds of manufacturing costs of jumbo reels, the significant extent of this input cost lever becomes evident. Additionally, the cost for packaging, plastics and freight also increased in 2018. Even if reduced cost

pressure from dropping pulp prices can be expected, the foresaid overcapacities in the tissue segment will likely impact profitability (again). Solely looking at Western European capacity, the expected tissue capacity change between 2018 and 2020 is >400kt at an expected consumption growth of ~150kt in the same period of time.

Additionally, tissue has become a traded (global) commodity, and cost-competitiveness plays a continuously increasing role in the business. Imports and exports of jumbo rolls have almost doubled globally in the past 25 years. US tissue imports from China were currently at a level of ~330,000tpy, which equals the annual capacity of about six large tissue machines. Tensions between the United States and China have already led to import duties, and assuming US import customs of 25% or more, Chinese tissue will no longer be competitive. This might lead to a significant drop in the US import quantity from China, which might become a major challenge for the global market balance.

Input cost pressure, overcapacity in the market, suspected changes in the global market balance and ongoing consolidation, plus the impact of global trends are not only a risk for the tissue industry, but rather an opportunity for those players who can successfully handle the continuously changing environment.

In this context, digitalisation serves as one of the key enablers to successfully and proactively anticipate trends, improve profitability, safeguard growth, and capture future opportunities. In the long run, digitalisation will help to unveil further potential and support sustainable growth and prosperity in the tissue industry. So, how prepared is the tissue industry for digitalisation, and where are major benefits and challenges seen?

### Digital readiness – summary of StepChange Consulting's study results

In the beginning of 2019, we conducted a study among managers, decision makers and stakeholders from the European pulp, paper, tissue and packaging industries to identify company priorities and expectations relating to Industry 4.0 digitalisation. Digitisation was named as the top trend among all participants, mentioned by almost 75% of the respondents.

Asking study participants from the tissue industry about their expectations regarding the highest benefits from digitalisation/Industry 4.0 for their businesses (compare Figure 3), 78% named cost reduction, followed by supply chain improvements and energy efficiency. On the other hand, the biggest challenges named were internal awareness of the topic (50%), changing the existing process organisation (46%) and IT systems

**"INPUT COST PRESSURE, OVERCAPACITY IN THE MARKET, SUSPECTED CHANGES IN THE GLOBAL MARKET BALANCE AND ONGOING CONSOLIDATION, PLUS THE IMPACT OF GLOBAL TRENDS ARE NOT ONLY A RISK FOR THE TISSUE INDUSTRY, BUT RATHER AN OPPORTUNITY FOR THOSE PLAYERS WHO CAN SUCCESSFULLY HANDLE THE CONTINUOUSLY CHANGING ENVIRONMENT."**

## Where do you expect the highest benefits from Digitalization for your business? What are the greatest challenges / barriers to implementing Industry 4.0?

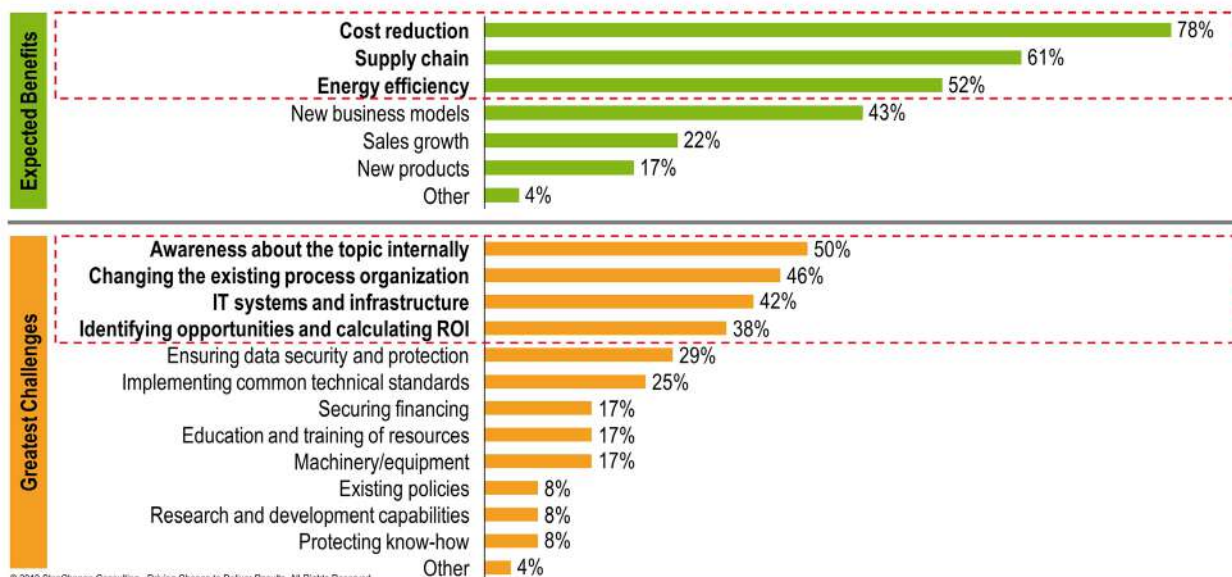


Figure 3: Expected benefits from digitalisation and greatest challenges to implementing Industry 4.0

and infrastructure (42%), followed by identifying opportunities and calculating ROI (38%).

The top-five greatest barriers to implement digitalisation/Industry 4.0 are the same for the tissue industry as they are for other industry segments – (internal) awareness, change of the existing process organisation, IT systems and infrastructure, identifying opportunities and calculating ROI, and ensuring data security and protection.

More than 40% of the respondents among tissue producers and throughout the pulp and paper industry are already

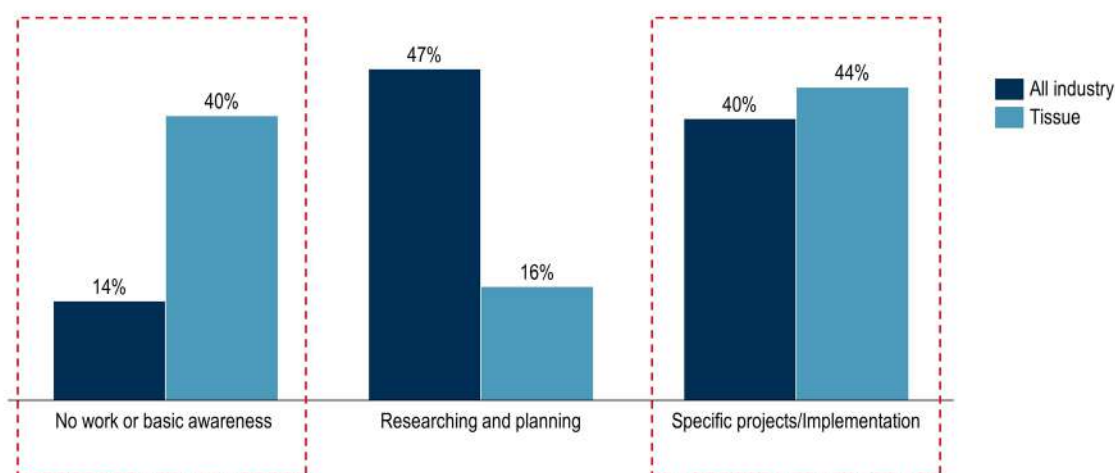
engaged in Industry 4.0 projects (Figure 4). On the other hand, there is a larger share of “no work in progress” among the tissue manufacturers – 40% in tissue vs. 14% overall.

Summing up the results of the study, digitalisation has become a priority topic in the industry, whereat the highest benefits are expected in cost reduction and in supply chain. Most digitalisation/Industry 4.0 projects are in the operational environment, and top barriers are lack of awareness, change management requirements, technical infrastructure and a missing ROI.

### How digitalisation and Industry 4.0 can enable and support strategic growth – global trends, and how the pillars of digitalisation can help to leverage opportunities for tissue from digitalisation

The tissue products value chain is full of interfaces, including plenty of value adding steps from the forest to end customers. Probably the most important connection in this value chain is the one between tissue producer/converter and the consumer – either through retail channels for at-home products, or through business-to-business relationships for

## How is your company currently engaged with Digitalization / Industry 4.0?



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Figure 4: Level of engagement of companies with digitalisation



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## Global trends drive opportunities in tissue

### Pillars of Digitalization



### Global trends

Economic growth, urbanization, lifestyles

Aging population

Sustainability & resource management

Increase in demand for energy

### Opportunities for tissue

Individualization, product development, demand growth, retail solutions, geographic shifts

Product innovation, demographic shift, changing requirements

Demand for natural fibers  
Circular economy

Energy efficiency

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**Figure 5:** Global trends drive opportunities in tissue

AfH products. Digitalisation and Industry 4.0 enable new value opportunities, and strongly supports the reduction of muda along the value chain.

The terms “digitalisation” and “Industry 4.0” can be mainly applied to three different situations:

1. People, machines, and industrial processes are intelligently networked and interact with each other;
2. Components interact independently within a production plant whenever necessary;
3. Feedback is captured digitally and incorporated across the value chain, automatically triggering events.

The Internet of Things (or “IoT”) can be considered as one of the key enablers of digitalisation. Integrating sensors into processes of daily life, that feed data into usually cloud-based platforms, and thereby enable machine-to-machine interaction that ultimately serve the customer’s convenience or improve any kind of process. Consequently, digitalisation allows for new levels of control and automation in industrial processes, factory operations and management of global supply chain networks, and new levels of supplier-customer interaction.

The tissue industry is directly linked to the fast-moving world of retail in most of the “at-home” segments on the one hand. On the other hand, it is linked the same way to the continuously increasing functionality, efficiency and service level requirements in most of the AfH segments. It can be expected, that market trends will continue to drive those requirements further.

A competitive tissue industry player has to be ready for a continuously changing and increasing set of requirements, and digitalisation is a powerful enabler to handle these challenges successfully. The mill of the future is enabled through the five pillars of digitalisation (Figure 5), which strongly support successful handling and anticipation of trends, and leveraging opportunities.

### Economic growth, urbanisation, lifestyles

Economies are growing globally, albeit at different speeds. Likewise, the number of people living in cities has increased. Lifestyles are evolving and require products and solutions that satisfy the people’s needs, wishes and requirements. Various opportunities are connected to these developments: growing demand, product development and product individualisation requirements, changing shopping habits, geographical shifts, and increased demand for advanced AfH solutions. Digitalisation can significantly help to optimally leverage those opportunities.

**Smart equipment** as the first pillar of digitalisation is the synonym for “intelligent assets”, which work on a highly autonomous level and are able to interact with their surroundings, supported by sensors that trigger action. Information technologies and automation technologies are merging, and the Internet of Things is adding even more opportunities. The shop floor of the future will be centered around intelligent manufacturing assets, that are flexible and able to adapt to changing production requirements. Digital technologies for

production, converting and printing allow for fast grade and product changes. Thereby, companies gain the ability to react faster to consumer and retail demand requirements through smaller lots and shorter individual runs. At the same time, competitive machine utilisation levels are secured, and markets’ requirements that come along with lifestyle and individualization trends can be satisfied (e.g. mass customization, like toilette paper with individual print designs, embossing, or similar applications). This enables the tissue company of the future to quickly respond to market requirements and to ensure high production flexibility, while simultaneously improving overall operational efficiency.

**Networking and connectivity** as second pillar of digitalisation represents the ecosystem for integration of new applications and equipment. To take advantage of the increased availability of information due to the digitalisation of the production processes, it is essential to connect all elements into a system that covers all aspects of a company’s operations: From inbound logistics to product engineering, manufacturing, and outbound logistics. The role of such a system is to bridge the gap between the physical and digital world, therefore, those systems are called “cyber-physical system” or CPS. One practical example for the almost limitless potential for networking and connectivity is the area of production control and machine operations. The traditional control room setup location is mostly close to an asset, at older assets, sometimes even numerous specific operator



## HIGHLY MANUAL PROCESSES BY NATURE LEAD TO SOMETIMES SIGNIFICANT VARIANCES REGARDING OVERALL MACHINE EFFICIENCY AND EFFECTIVENESS, MATERIAL LOSSES AND BREAKS, MAINTENANCE NOTIFICATIONS, AND MANY OTHER FACTORS. THE DIGITALISED MILL OF THE FUTURE ALLOWS FOR MULTI-ASSET AND EVEN MULTI-SITE CONTROL ROOMS, ENABLING THE OPERATORS TO CONTROL SEVERAL ASSETS EASILY AT THE SAME TIME.

stations along the production line can be observed. Those “fragmented” operator stations, and older control rooms, allow for monitoring of specific production sections and manual counteractive measures only. Highly manual processes by nature lead to sometimes significant variances regarding overall machine efficiency and effectiveness, material losses and breaks, maintenance notifications, and many other factors. The digitalised mill of the future allows for multi-asset and even multi-site control rooms, enabling the operators to control several assets easily at the same time. In addition, those control rooms will include the required monitoring technology for predictive analytics based on production parameters (e.g. like break prediction), machine condition, online real-time vibration control, and many other parameters.

**Data analytics** is another core pillar of digitalisation. Advanced or predictive analytics is not only used to improve maintenance and production activities by processing large amounts of real-time signals. It also supports prediction of consumption and related demand patterns, market developments and product requirements. The potential gains from advanced analytics in real-time environments extend from cost savings through predictive maintenance and the significant reduction of storage requirements to the optimized utilization of assets. One of the numerous use-cases in regard to data analytics is – beyond marketing, sales, operations and supply chain – the area of maintenance. Today, maintenance is often reactive, incident based, and with a local asset focus. Reliability based predictive

maintenance, utilising the opportunities of digital technologies and virtualisation, is already being implemented by technological forerunners. The digitalised future will bring additional levels and quality of asset sensor integration and online control, predictive data analytics supported by self-learning environments, and remote operations that allow for optimal knowledge sharing and efficiency.

### Aging population

The average life expectancy has increased globally within the past 35 years by ten years. This leads to an increasing average age of the global population. This global development again holds a number of opportunities for the tissue and nonwovens industry. Older people have different requirements and require different products than younger ones. Tissue and nonwovens product innovation can help satisfy these requirements.

**Smart products** as additional pillar of digitalization support and serve all age groups, but especially an increasing share of elderly people represents an opportunity for the tissue and nonwoven segment. Smart products can either be products that participate in the production process by providing data to equipment on next steps, requirements, etc. – or/and, have the ability to interact with customers.

Through customer interaction, the products provide additional benefits and services beyond their primary function. Those benefits for an aging population could potentially reach from smart sanitary and hygiene products over food safety and allergy control to smart bandaging

materials. Smart Products do not only represent a significant value-add for the customer, they as well require a high level of know-how, skills, and research and development experience. Digitalization does not only serve the “functional” aspect of smart products, it also serves the skills- and knowledge management aspect. One important aspect in current skills- and knowledge management approaches is the attempt to locally document and replicate or duplicate skills.

The digitalised mill of the future strongly supports skills management by consolidating and centralizing existing skills into a skill pool, which, similar to the multi-site control room, allow for multi-site responsibility of highly skilled employees, remotely supporting a lean team of local colleagues in solving issues.

### Sustainability & resource management

The global trend towards sustainability and careful resource management is inevitable in times where global warming, rising sea levels, and trash accumulation in huge ocean garbage patches (just to name some examples) are reality. The term “climate crisis” is on the media on an almost daily basis.

Sustainability and responsible resource management play a crucial role in every tissue, paper and packaging company’s corporate responsibility charter. The opportunities for tissue are in the demand for natural, recyclable and finally compostable fibers within a circular economy.

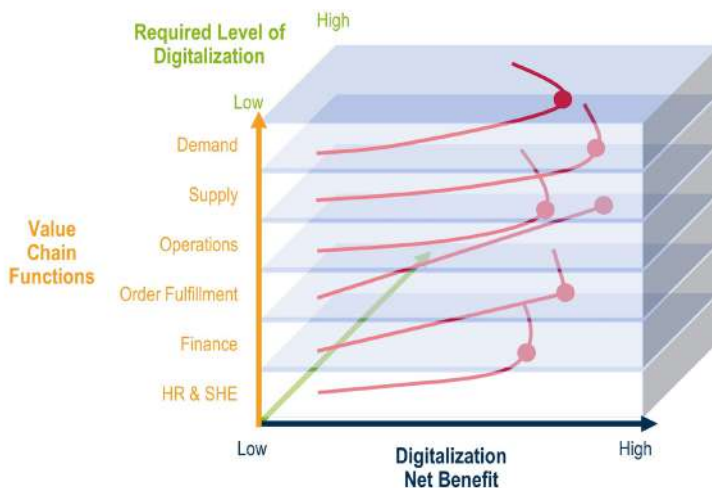
**Value Chain Integration** as additional, last pillar of digitalisation strongly supports (not exclusively) this global trend. It takes place with the integration of IT systems, including customers and suppliers across the whole value chain in order to optimise the flow of information and goods.

In many current supply chain setups, semi-automated processes, and a lack of visibility across activities and requirements are reality. Digitalisation allows for full integration & visibility across the supply chain(s), including real time planning and sensor-based fulfillment ensuring reliability, quality, OTIF, careful use of resources (e.g. through maximized transport capacity utilization), and ultimately serving the customers’ needs in a most efficient and sustainable way.

Changes in demand and supply will automatically and directly be fed into the integrated value chain, and therefore

## THE GLOBAL TREND TOWARDS SUSTAINABILITY AND CAREFUL RESOURCE MANAGEMENT IS INEVITABLE IN TIMES WHERE GLOBAL WARMING, RISING SEA LEVELS, AND TRASH ACCUMULATION IN HUGE OCEAN GARBAGE PATCHES (JUST TO NAME SOME EXAMPLES) ARE REALITY. THE TERM “CLIMATE CRISIS” IS ON THE MEDIA ON AN ALMOST DAILY BASIS.

## Multidimensional Approach: Digitalization Value Assessment Cube



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Figure 6: Digitalization Value Assessment

enable companies/business partners to react quickly and more efficiently to volatilities, avoiding wastages, and supporting sustainability and resource management goals.

### The potential optimisation benefits from digitalisation within the value chain functions are high

The disparity and individuality of various assets and sites lead to the fact that required purposeful investments into digitalization and related benefits from those investments can vary significantly from asset to asset and from company

to company. StepChange Consulting developed a multidimensional approach to assess the benefit from digitalization across the different supply chain functions and the related required level of digitalization (Figure 6). The Digitalisation Value Assessment Cube allows to individually assess and determine the individual "sweet spot" of each site and company between investments to reach the required level, and the expected net benefits from digitalisation.

Overall potential optimisation benefits within the value chain functions are significant (compare Figure 7). The

untapped potential from implementation of Industry 4.0 and digitalisation is estimated to be €5bn in inventories and €10bn in cost savings in Europe alone.

### Conclusion

Driven by global trends and different changing market aspects, the tissue industry faced challenging times in the last year. Simultaneously, the tissue industry expects significant benefits from digitalisation, especially with regards to cost reduction, supply chain operations and energy efficiency – which could be called a "perfect match" when it comes to managing challenging times. At the same time, more than 50% of the study participants indicated that they are not engaged in specific digitalisation projects. This is contradictory in itself, especially when reflecting the significant opportunities it provides to deal with global trends, to support strategic growth, and to leverage the multiplicity of tissue specific opportunities.

It is crucial to choose an individual and multidimensional, and at the same time easily applicable approach, to leverage the full potential that comes along with digital technologies, and to determine the individual sweet spot and related net benefits. The huge estimated potential of optimization benefits should be convincing enough to engage in this huge topic, and to take the next step towards the digitalised mill of the future.

### Think beyond. Today!

### The potential optimization benefits from digitalization within the value chain functions are high

#### Manage Safety, Health & Environment

Up to **50%** loss time incident reduction  
Reduction/Avoidance of uncontrolled emissions

#### Manage HR

**10-30%** reduction in headcount

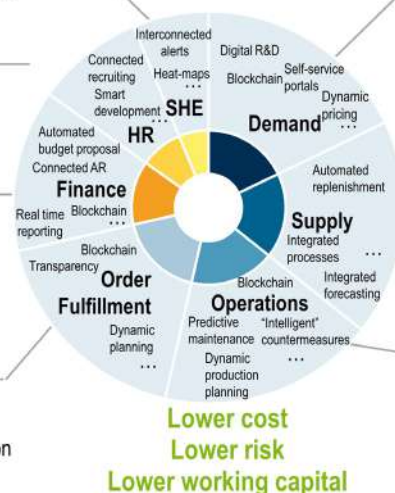
#### Manage Finance

**10-30%** receivables optimization  
Process throughput/improve allocation/liquidity

#### Manage Order Fulfillment

**5-10%** distribution cost reduction  
**10-40%** finished goods inventory reduction

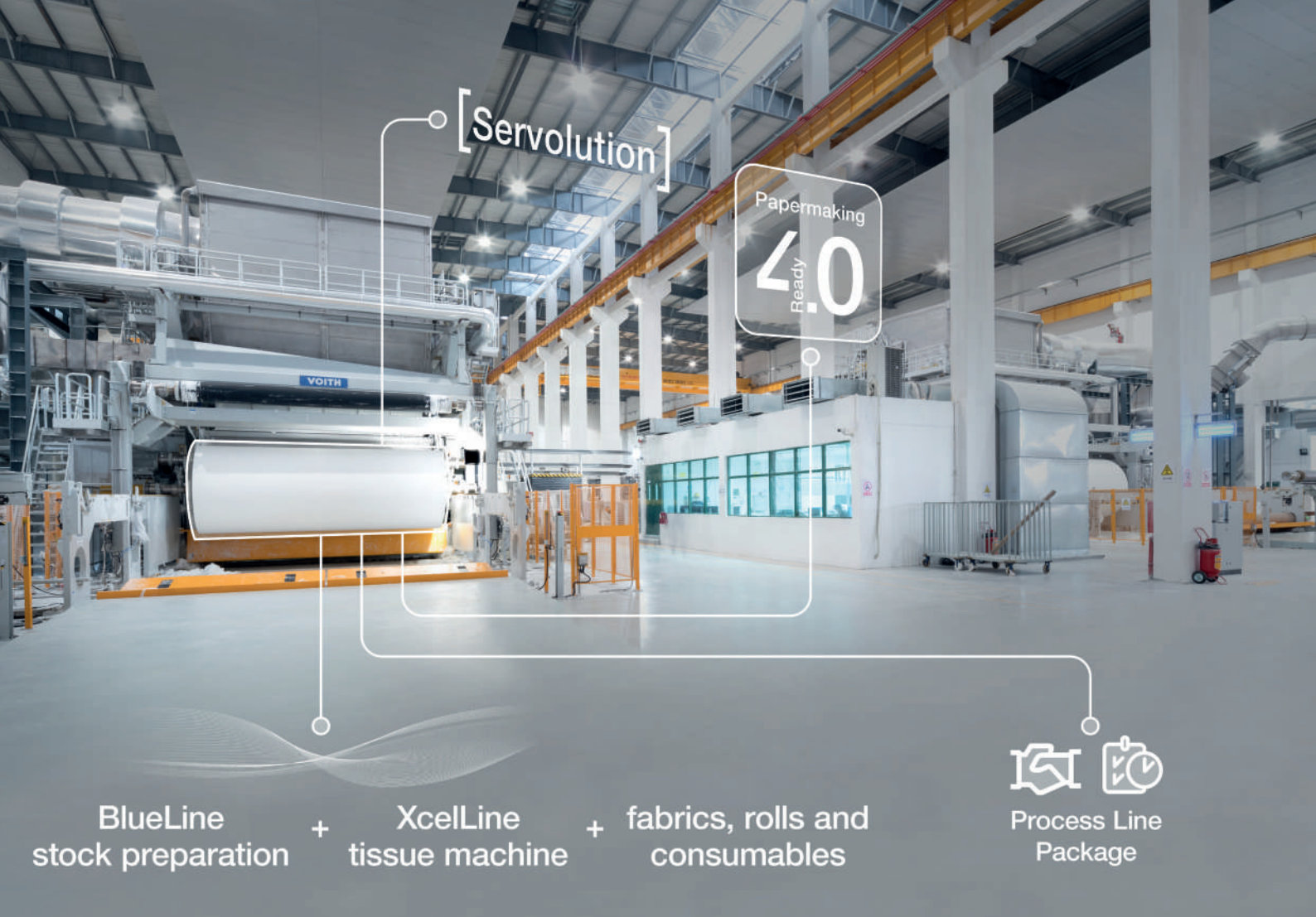
**Higher asset utilization**  
**Higher service levels**  
**Higher effectiveness**



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Figure 7: Potential optimisation benefits from digitalisation





# Driving Tissue

## Lasting lifecycle partnership

Are you looking for a forward-thinking partner who has a finger on the pulse of the tissue industry, covering the entire papermaking process reliably?

Do you want to make your tissue machines fit for the future with digital solutions and services?

Would you like to realize a project with minimum administrative effort, reduced interfaces and transparent costs?

### We drive your tissue production to the future

- For profitable production we guarantee a reliable tissue making process with the broadest portfolio on the market
- We offer Papermaking 4.0 with innovative digital products and services
- With the Process Line Package, we take overall responsibility for project realization

[voith.com/tissue](https://voith.com/tissue)

# VOITH

Inspiring Technology  
for Generations



**President and chief executive Linda K. Massman:**  
"Solid second quarter."

## AMERICA

### Clearwater Paper Reports Q2 results; positively impacted by higher retail tissue shipments and tissue pricing

Clearwater Paper Corporation has reported a net sales increase of 4.6% to \$452.0m for the second quarter of 2019 compared with the same time a year earlier.

The company said the increase was due to "record quarterly paperboard shipments and sales, higher retail tissue shipments and higher paperboard and tissue pricing from previously announced price increases".

These items were partially offset by lower non-retail tissue shipments primarily resulting from the sale of the company's mill in Ladysmith, Wisconsin, in August 2018.

EBITDA was \$42.3m for the second quarter of 2019 compared to \$42.4m for the second quarter of 2018.

Linda K. Massman, president and chief executive, said: "We delivered a solid second quarter with record paperboard shipments and sales, and higher shipments of converted retail tissue, compared to the first quarter of 2019.

"Partially offsetting those results were the start-up costs related to our new paper machine in Shelby, North Carolina, which is

progressing well and is expected to reach its full production run rate in late 2020.

"In addition, we recently completed the refinancing of our secured revolving credit facility with a seven-year Term Loan B and an asset based revolving credit facility, which will provide us the operational flexibility and liquidity needed as we focus on generating free cash flow to de-lever our balance sheet."

In its Consumer Products division, net sales were \$224.3m for the second quarter of 2019, up 1.2% compared to second quarter 2018 net sales of \$221.6m.

This increase was due to higher retail tissue volumes sold, higher average prices for both retail and non-retail tissue products and a favourable mix shift to a higher percentage of retail and ultra-quality products.

Segment operating loss for the second quarter of 2019 was \$5.1m, compared to an operating loss of \$3.6m in the second quarter of 2018.

Total tissue volumes sold were 82,798 tonnes in the second quarter of 2019, a decrease of 7,588 tonnes or 8.4% compared to 90,386 tonnes in the second quarter of 2018.

Average tissue net selling prices increased 9.8% to \$2,691 per tonne in the second quarter of 2019, due to a significant reduction in parent roll sales resulting from the divestiture of the Ladysmith mill, previously announced price increases and a higher mix of ultra-quality tissue products.

Net sales in the Pulp and Paperboard segment reached a record high of \$227.7m for the second quarter of 2019, up 8.1% compared to second quarter 2018 net sales of \$210.5m.

The increase was due to record shipment volumes resulting from strong demand and the benefit of higher prices from previously announced increases.

Clearwater Paper manufactures quality consumer tissue, AfH tissue, parent roll tissue, bleached paperboard and pulp.

It is a premier supplier of private label tissue to major retailers and wholesale distributors.

### Cascades to acquire Orchids Paper; boosts retail tissue offering

Cascades has boosted its US retail tissue offering after entering into an agreement to acquire Orchids Paper Products Company.

The move will include the Barnwell, South Carolina, and Pryor, Oklahoma-based operations, as well as certain assets, the supply and other commercial arrangements with Fabrica de Papel San Francisco ("Fabrica"), based in Mexicali, Mexico, and certain of its affiliates.

It is anticipated that the transaction will close in August or September 2019 subject to the satisfaction of customary closing conditions. The company will pay a cash consideration of US\$207m, financed by its credit facilities. The acquired assets are expected to generate annual EBITDA of approximately US\$45m beginning in 2021.

Orchids Paper's integrated plants have an estimated parent roll capacity of up to 114,000 tonnes and up to an estimated 114,500 tonnes of converting capacity. The company also has an agreement with Fabrica providing access for up to an additional 20,000 tonnes of converted products for the Western USA market.

The move accelerates the modernisation of Cascades' US tissue platform as well as strengthening its geographic and operational reach in the retail tissue segment in the Southern and Western United States. More than US\$240m has been invested in the plants' modern production and converting equipment and strategic partnership over the last five years. This includes the installation of a new paper machine, two new converting lines and the modernisation of two others converting lines at the Pryor site; a new Valmet QRT paper machine installed at the Barnwell site in 2017.

In the coming months, Cascades will invest approximately US\$5m to add swing functionality to expand the range of products that can be manufactured from ultra-premium structured tissue to high-quality conventional.

In the coming months, Cascades will maximise the Barnwell and Pryor plants - which the company said operated at approximately 30% and 70% of their total converting capacity in 2018 - by transferring volumes that are currently outsourced to third parties or produced at the company's other US plants to these facilities. Cascades President and chief executive Mario Plourde said: "This acquisition is very well aligned with our strategic plan and supports our efforts to position our tissue platform for

**THE MOVE ACCELERATES THE MODERNISATION OF CASCADES' US TISSUE PLATFORM AS WELL AS STRENGTHENING ITS GEOGRAPHIC AND OPERATIONAL REACH IN THE RETAIL TISSUE SEGMENT IN THE SOUTHERN AND WESTERN UNITED STATES.**



long-term growth.

"The acquisition of these well-funded assets enables us to do so while simultaneously supporting market consolidation and avoiding the risks inherent in the construction or installation of new equipment.

"We are focused on carrying out strategic investments in our key tissue sector that will modernise our assets, lower our fixed cost base, optimise our geographic footprint, and improve our logistics network and requirements to support the growth of our customers and Cascades. I have confidence in our future in this sector which has been very beneficial and generated interesting margins for Cascades over the past 40+ years".

## UK

### Northwood Group boosts AfH offering with KPP Converters acquisition

UK-based Northwood has completed the purchase of 100% of the issued share capital of KPP Converters (KPP). KPP - a supplier of AfH tissue products - will continue to operate as an independent company out of its site in Ilkeston as a subsidiary of Northwood Hygiene Products (NHP). Former KPP owners Cliff Arnold and David Vaughan will continue in the business to ensure a smooth transition as it is integrated into the wider Northwood AfH businesses.

Paul Fecher, Northwood chairman, said: "This acquisition brings additional resource to our market offering and continues the focus of the Northwood businesses within the UK hygienic tissue sector.

"The acquisition of KPP Converters allows us to complement our existing converting facilities in Telford, Penygroes, Bromsgrove, Lancaster and Birmingham as well as further consolidating our position as a major independent supply source to the sector.

"We look forward to working closely with Cliff and David and the whole KPP team as they join the Northwood family of companies".

The company said that all contacts and communication details remain unchanged.

### Aldi to trial plastic-free toilet paper packaging

Aldi has chosen the UK in which to trial removing plastic packaging from packets of toilet roll, in a move it said could save more than 900 tonnes of plastic a year.

The supermarket will sell four-packs of Luxury Toilet Paper wrapped in paper rather than non-recyclable plastic in 174 stores across parts of the North East and Midlands.

to introducing paper and compostable bags, we are committed to ensuring that our packaging doesn't end up as waste."

Aldi is also targeting removing all hard-to-recycle plastic - such as undetectable black plastics, PVC and expanded polystyrene - from its food range by the end of 2020, and reducing all plastic packaging by 25% by the end of 2023.



Paper pack: Aldi trial in UK

If successful, the company said paper packaging will be rolled out across the UK and on all packets of toilet paper, saving an estimated 935 tonnes of plastic each year.

The move could then be extended to cover kitchen towels.

Fritz Walleczek, managing director of corporate responsibility at Aldi UK, said: "Wherever we can find plastic packaging that can be removed or replaced with recyclable alternatives, we are determined to do just that.

"From taking shrink-wrap off vegetables

## ROMANIA

### MG TEC Group boosts capacity

MG TEC Group has increased its production capacity after investing in two Ribo Tissue E-WIND T100 rewinders.

Supplied A.Celli Paper, the lines will be installed at the company's Dej plant.

They will have a width of 2.8m and will use high-quality tissue paper, with basis weight range from 14 up to 21gsm.

They are equipped with four unwinders each and reach an operating speed of 1600mpm, producing finished rolls with a maximum diameter of 2,500mm.

The machinery supplier said that the line's advanced software manages to control the web tension, preventing or minimising the loss of bulk during the winding phases, thus maintaining the high-quality of the product throughout the process.

**MG TEC GROUP HAS INCREASED ITS PRODUCTION CAPACITY AFTER INVESTING IN TWO RIBO TISSUE E-WIND T100 REWINDERS. SUPPLIED A.CELLI PAPER, THE LINES WILL BE INSTALLED AT THE COMPANY'S DEJ PLANT.**

## ASIA PULP AND PAPER GROUP (APP) HAS BOOSTED ITS CAPACITY IN CHINA AFTER INVESTING IN 18 INTELLI-TISSUE ECOEC 1600 PREMIUM MACHINES. SUPPLIED BY PMP, THE 18 COMPLETE TISSUE MACHINES WILL BE INSTALLED AT THE COMPANY'S NEW MILL IN RUDONG JIANGSU.

### CHINA

#### APP invests in 18 TMs; all machines to produce tissue from 11.5gsm – 22.0gsm

Asia Pulp and Paper Group (APP) has boosted its capacity in China after investing in 18 Intelli-Tissue EcoEc 1600 Premium machines.

Supplied by PMP, the 18 complete tissue machines will be installed at the company's new mill in Rudong Jiangsu.

All the machines will be designed and manufactured with the same concept to produce tissue from 11.5gsm up to 22.0gsm at the reel.

The machines are designed for a maximum speed of 1,600m/min.

The scope of supply of each machine includes -

- Intelli-Jet V - 5-channel, single layer, hydraulic headbox;
- Intelli-Former - Crescent Former type, a compact design with the optimum catch of the jet beam from the headbox and efficient dewatering;
- Intelli-Press - Single press design with a cantilevered framework;
- Intelli-YD - Steel Yankee Dryer with a diameter of 18 ft (5.48m);
- Intelli - Cap - Exhaust Cap over the Yankee Dryer;
- Intelli-Reel - Reel which the supplied said provides efficient, high speed, continuous paper winding and perfect parent roll structure.

The supplier said the machines will "strengthen APP's position in the Chinese tissue market, adding capacity of premium products with low green footprint thanks to ultra-low media consumption provided by PMP's Intelli-Tissue EcoEc line".

#### Libang Group boosts capacity in Hebei and Hubei

The Libang Group has ordered four new tissue machines for its mills in China, according to domestic supplier Baotuo Paper Machinery Engineering.

The supplier told TWM that the four new tissue machines will be provided successively during the next 12 months.

Each will have a capacity of 20,000

metric tpy, a trim width of 3.55m, and a design speed of 1,300 m/min.

Two lines will be installed at the group's mill in Baoding city, Hebei, which is run by its subsidiary Baoding Gangxing Paper.

The other two units will be installed at a greenfield mill in Xiaogan city, Hubei province, and will be run by another subsidiary, Hubei Libang Paper. Baotuo is one of the subsidiaries of BaoSuo Enterprise, supplying machinery for tissue turnkey project from tissue making, converting to packing.

#### Luoyang Jieda Paper boosts facial tissue capacity with investment

Luoyang Jieda Paper has signed a contract for the supply of two BC1300-2850 Crescent Former Tissue Machine.

Supplied by Baotuo Enterprise, the two tissue machines have a design speed of 1,300m/min and a width of 2.8m.

The contract also includes the general contracting project from the sizing flow system to the reeling completion. When producing facial tissue with a basic weight of 15g/m<sup>2</sup> and a crepe ratio of 30%, the output of a single set of tissue paper machine will exceed 50tpd. The project is scheduled to be finished and delivered in spring 2020.

### GLOBAL



*Essity president and chief executive Magnus Groth: Profit up 15%.*

#### Essity reports half-year results; implemented price increases had positive impact on organic net sales

Essity has reported a year-on-year net sales increase of 8.6% to SEK 62,724m

in its half-year report and said innovation launches have strengthened its customer and consumer offering.

Compared to the same period a year ago, emerging markets accounted for 37% of net sales and saw an organic net sales increase of 9.6%.

Operating profit before EBITA increased 5% to SEK 6,412m while higher raw material and energy costs had a negative impact of SEK 1,300m on earnings.

Profit for the period increased 15% to SEK 4,430m.

During the quarter the group continued to report strong organic net sales growth and the adjusted EBITA margin rose.

It added that the implemented price increases had a positive impact on organic net sales growth and profitability.

President and chief executive Magnus Groth said: "Our investments in sales and marketing, primarily in Asia and Latin America, contributed to higher growth.

"In addition, we launched innovations that strengthened our customer and consumer offering and improved the product mix. For example, in China we re-launched Feminine Care with Libresse V-Comfort and invested in local production.

"In Incontinence Products, we strengthened our product offering in the healthcare sector with TENA ProSkin.

"Efficiency efforts are according to plan and we have achieved significant cost savings.

"Our raw material and energy costs were higher during the quarter, although the market prices for such items as pulp are demonstrating a declining trend, albeit from a high level.

"In terms of our ongoing activities to contribute to a sustainable and circular society, we have established additional sustainability targets for packaging with a special focus on plastic packaging.

"We have also decided to invest in sustainable alternative fibre technology for tissue production."

The group's net sales increased 7.9% in the second quarter of 2019 compared with the corresponding period a year ago.

The group's adjusted EBITA in the second quarter of 2019 increased 11% compared with the corresponding period a year ago.

Earnings were positively impacted by higher prices and volumes as well as a better product mix and cost savings.

Cost savings amounted to SEK 322m, of which SEK 147m was related to the group-wide cost-savings programme, which has proceeded according to plan.



# AIRMILL, A REVOLUTIONARY EMBOSSING TECHNOLOGY

THE HIGHEST QUALITY OF TISSUE ROLLS WHILE SAVING ON RESOURCES

Gambini's **Flex** Converting Lines provide the capability to obtain results never before achieved in converting. The unique and revolutionary embossing system, resulting from the combined use of **AirMill** technology with the **TouchMax** quick-change embosser, gives customers the capability to produce tissue rolls with remarkable benefits compared to standard products in the market. **AirMill** technology adds limitless advantages to the converting process in terms of efficiency and flexibility while creating benefits and new opportunities even for the paper mill. Come and test the potential of **AirMill** technology on our **G4U** Pilot Line at the **TissueHub**, Gambini's new Technology Development Center. Book your trials at [marketing@gambinispaspa.it](mailto:marketing@gambinispaspa.it)





Infinity's Dual Rotating Cassette C15: multiple benefits

## Infinity launches casepacker with 25% – 50% speed increase

Infinity Machine & Engineering Corp. has responded to customer demand with the launch of its Dual Rotating Cassette C15, a casepacker module designed for higher speed industrial and facial tissue lines.

The concept was designed with the goal of increasing the speed at which the product can be loaded into the box.

The packaging machinery supplier said the design will bring "multiple benefits to its customers, including 25% - 50% faster speeds on two- and three layer formats, achieving speeds of 15cpm consistently".

Additionally, the new design allows for better control of the product during rotation, simplified programming and a servo controlled back-stop for non-rotate configurations.

The machine is also modular so producers can easily switch to bagging and bundling depending on their orders.

Ryan Holmer, technical sales, Infinity, said: "The development was completely customer-driven after a customer asked our engineers to design a machine that can pack two- and three-layer industrial product and facial tissue at higher speeds (up to 15cpm).

"These two- and three-layer configurations can often be limited for these product types and historically run around 8-10 cases per minute on most tissue casepackers.

"Once the request was received, our engineers went to work and designed a

concept for a machine with two separate, three axis controllers, which are opposing each other on a cam."

## Lucart highlights Circular Economy and sustainability in its latest report

Lucart has presented its 2018 Sustainability Report with a focus on Circular Economy, new investments and partnerships for sustainable development

The company reported a turnover increase of 12% in 2018.

Major investments include the acquisition of three production plants in Spain, the construction of a new plant in Hungary, as well as the start-up of a new Continuous Machine for the production of tissue paper and a new, fully automated logistics centre.

According to Lucart's estimates and following an EPD (Environmental Product Declaration) analysis carried out on two types of toilet paper produced by the company, different environmental benefits can be measured for each tonne of recycled toilet paper produced compared to paper made from "virgin" cellulose, including:

- 80% reduction in the consumption of renewable resources, with savings of 4,060.90kg of wood;
- 38% reduction in the consumption of water resources, i.e. 50.63 m3 of water;
- savings of 20% of the fossil CO2 emitted.

The company added that according to data provided by Assocarta, approximately



Lucart Group's CEO Massimo Pasquini: the company reported a turnover increase of 12% in 2018

1.5m tonnes of tissue paper for hygiene and sanitary use are produced in Italy each year, of which only 7% is produced from recycled materials.

More than 53% of the paper used by Lucart is recycled and as much as 95% of the recycled paper it uses comes from Europe and, specifically, from Italy, France and Spain, the countries where Lucart has plants capable of producing recycled tissue paper.

In 2018, in order to speed up its transition to a circular economy, Lucart also joined the CE100 network of the Ellen MacArthur Foundation, the world's largest network for companies seeking to develop new opportunities in circular economy.



## ABB launches Winder Performance Optimisation digital solution

ABB has launched a Winder Performance Optimisation to maximise capacity and productivity for tissue manufacturers.

The supplier said the patented digital solution "optimises winder performance for improved availability, product quality and asset life".

It aims to maximise asset performance, convert to different paper grades and/or increase machine speed, without replacing existing winders.

It works by benchmarking winder performance, implementing improvements, monitoring to sustain performance and—uniquely, according to the supplier—further optimising productivity by applying online calculations that continuously adjust winder acceleration and deceleration targets.

Shankar Singh, global product manager, ABB Digital Solutions, said: "We understand the importance for papermakers to ensure their existing winders are able to handle demands of different grades, various roll orders with high quality and productivity improvement needs.

"Our goal with this product is to help mills get improved productivity out of their existing winders, without the need to invest heavily in new equipment."

The company added that further advantages of the ABB Winder Performance Optimisation include the ability to monitor and improve roll set quality, and improved utilisation of machine reel capacity.

## Recard announces management changes; Riccardo Lorenzo takes on MD role

Recard has announced that Mauro Michelini exited the company on 31 July.

Doctor of engineering Riccardo Lorenzo Campo has joined the company as managing director.

As of 1 August 2019, doctor of engineering Alberto Tomelleri joined Recard as commercial and marketing director.

## KEMIRA IS TO PARTICIPATE IN THE DEVELOPMENT OF 100% BIO-BASED CHEMICALS FOR PAPER AND CARDBOARD PRODUCTION AS PART OF AN EU FUNDED PROJECT. THE COMPANY HAS JOINED A FOUR-YEAR SCHEME WHICH AIMS TO DEVELOP 100% BIO-BASED CHEMICALS, PRODUCED FROM RENEWABLE RAW MATERIALS.

### Körber Group acquires Roll-Tec; expands converting and packaging machine expertise

Körber Group has increased its Business Area Tissue division after acquiring Roll-Tec Cilindro, a Brazilian-based embossing roll specialist.

Roll-Tec develops, produces and sells engraving cylinders for embossing machines for tissue paper and other tissue products.

The acquisition further expands Körber Group's international Business Area Tissue, which offers solutions for converting and packaging machines for toilet paper, folded tissue and paper towels.

Within the Körber Business Area Tissue, Roll-Tec will work closely with Engraving Solutions in Italy and Fabio Perini's Joinville site in Brazil.

With this acquisition, Körber is expanding its product range for its Latin American customers.

### Metsä Tissue to book €107m review and focus on tissue

Metsä Tissue, part of Metsä Group, has announced a strategy update that includes an operational review with the target to improve internal efficiency, reduce complexity and focus on the tissue business. In the second quarter of 2019, the company will book a mainly goodwill related impairment of approximately €102m. In addition, it will book a restructuring provision of approximately €5m related to the ongoing and already completed co-determination negotiations.

### Kemira to help develop 100% bio-based chemicals

Kemira is to participate in the development of 100% bio-based chemicals for paper and cardboard production as part of an EU funded project.

The company has joined a four-year scheme which aims to develop 100% bio-based chemicals, produced from renewable raw materials.

In addition, the project aims to develop new means to improve production efficiency at pulp mills with higher use of wood biomass.

The project started in May 2019 and has received EUR 5.9m funding from the Bio Based Industries Joint Undertaking (BBI JU), under the European Union's Horizon 2020 research and innovation programme. The total budget of the project is EUR 9.6m and it is one of several undertakings aimed at developing a sustainable bio-based industry sector in Europe.

During the four-year project, Kemira and other project members will conduct demonstration-scale trial runs at a dissolving pulp mill in Europe.

Biotechnology company Ecohelix will provide and operate the demonstration unit and Kemira's role is to assess the technical and economic feasibility of the bio-based offerings produced in the project.

The aim is to develop fully bio-based polymeric chemistries for paper and cardboard production to complement and even replace polymers that are derived from petroleum.

### Valmet launches stand-alone wet end control package

Valmet has launched a stand-alone wet end control package for paper, board and tissue machines.

The control product called Valmet Stand-Alone Retention Control (Valmet RET) can be used for retention and break-time headbox ash consistency management.

The supplier said it offers benefits for paper, board and tissue makers previously only available to the users of Valmet DNA process control and

**METSÄ TISSUE, PART OF METSÄ GROUP, HAS ANNOUNCED A STRATEGY UPDATE THAT INCLUDES AN OPERATIONAL REVIEW WITH THE TARGET TO IMPROVE INTERNAL EFFICIENCY, REDUCE COMPLEXITY AND FOCUS ON THE TISSUE BUSINESS. IN THE SECOND QUARTER OF 2019, THE COMPANY WILL BOOK A MAINLY GOODWILL RELATED IMPAIRMENT OF APPROXIMATELY €102M.**

Valmet IQ quality control system. Timo Rantala, product manager, automation, Valmet, said: "Utilising the Valmet Retention Measurement (Valmet RM3), low consistency measurement and control hardware with state-of-art model predictive control, the product enables users to take control of the wet end to a new level.

"Valmet RET improves paper quality in the machine direction by reducing variations in basis weight, paper ash and moisture."

### OMET launches TV 840 Tronic

OMET has targeted the napkin market with the launch of its TV 840 Tronic machine.

The supplier said the machine improves automation, offering a "cutting-edge machine that enhances ease of use and optimises waste".

OMET said: "TV 840 Tronic is a high-performance double-lane automatic napkins folding machine line that includes a wide range of high technology solutions: it is the ideal solution for profitable converting.

"Characterised by reliable and robust construction, it can reach a productivity up to 5,600 napkins per minute and a speed of 900 metres per minute, and can be equipped with flexo printing units up to 9 colours."

The machine is completely digitalised and equipped with servo motors on each

## AFTER A CAPITAL INCREASE BY ECO INVESTMENT AND INTEGRATION INTO SLOVAK HYGIENIC PAPER GROUP, PALOMA AIMS TO BECOME THE LEADING MANUFACTURER OF HYGIENIC PAPER PRODUCTS IN THE ADRIATIC AND BEYOND.

axis, and can be remote controlled by operators or tele-service.

The company added that this version of the TV 840 is already in production for several international customers.

### SLOVENIA

#### Slovak Hygienic Paper Group boosts capacity at Paloma site

Slovak Hygienic Paper Group (SHP Group) has invested in a Toscotec-supplied AHEAD-2.0L tissue line.

Delivery to its Paloma mill in Sladki Vrh is scheduled for March 2020 and start-up for June 2020.

The turnkey supply includes one AHEAD-2.0L tissue machine, equipped with a second generation Steel Yankee Dryer TT SYD, Toscotec's shoe press technology TT NextPress and gas-fired hoods TT Hood-Duo.

The net sheet width is 5.5m and the maximum operating speed is 2,000m/min, with a production of 220tpd.

The AHEAD-2.0L machine will replace the

mill's existing PM6 and will manufacture high quality toilet tissue, kitchen towel and napkins for household and professional use in the AfH segment.

Toscotec will provide its proprietary Distributed Control System TT DCS and a complete electrification system.

The scope also includes stock preparation equipment and accessories, Toscotec's patented TT SAF (Short Approach Flow), the machine's dust and mist removal systems and a shaft puller.

Following a capital increase by the private-owned investment fund Eco Investment in 2016, and the integration into the Slovak Hygienic Paper Group (SHP), group, the Slovenian tissue supplier Paloma aims to become the leading manufacturer of hygienic paper products in the Adriatic region and beyond.

Richard Zigmund, chief executive of SHP Group, said: "When we decided to invest in new capacity at Paloma's production base, we started looking for a machinery supplier who could manage and successfully complete complex turnkey projects.

"Toscotec proved to have the right



Paloma's Sladki Vrh mill: 2020 start-up for AHEAD2.0L tissue line



credentials to support our strategic program and supply the state-of-the-art technology we need to set Paloma's manufacturing at full capacity."

Founded in 1873, Paloma is a public limited company with a long tradition in the manufacture and marketing of hygienic paper products in Europe.

Its annual production capacity is 72,000 tonnes of tissue and it currently employs 675 people.

Paloma is predominantly export-oriented and it currently holds the position of market leader in South-East Europe.

### Procter & Gamble launches Charmin Forever Roll

Procter & Gamble (P&G) has launched the Charmin Forever Roll – a month's supply of toilet paper in one giant roll – in the United States. The product holds 850 sheets of toilet paper and promises to enable customers to:

- Go up to one month before changing Charmin Forever Roll;
- Made of 2-ply Ultra Soft toilet paper;
- Comes in a 12" diameter size priced at \$9.99.

A spokeswoman for P&G said: "The

Charmin Forever Roll was created to solve the ever-common hassle of constantly needing to change the toilet paper roll.

"85% of US adults agree that walking into a bathroom that has an empty toilet paper roll is one of the most frustrating bathroom scenarios. The Forever Roll is designed to last up to one month so people can focus less on changing the roll."



*The Forever Roll: designed to last up to one month*

## MEXICO

### Blue Tissue boosts capacity with TM start-up

Mexico's Blue Tissue has increased its production capacity after starting up an iDEAL Master Tissue Machine. Supplied by A.Celli, the turnkey plant includes the 2-ply slitter A.Celli E-Wind T100 rewinder in addition to the tissue machine, which will integrate into the customer's existing converting line. The line was installed in the tissue manufacturer's Apizaco plant. This is a single machine (2.7m pope reel width) for the production of tissue rolls with a diameter of 2.5m, working at speeds of 2,000, with a production capacity of 110tpd.

**THE TURNKEY PLANT INCLUDES THE TWO-PLIES SLITTER A.CELLI E-WIND T100 REWINDER IN ADDITION TO THE TISSUE MACHINE, WHICH WILL INTEGRATE INTO THE CUSTOMER'S EXISTING CONVERTING LINE.**



*Capacity boost: the team celebrate Blue Tissue's start-up of its iDEAL Master Tissue Machine*



**Abu Dhabi:** a piece of cake all round as start-up team brings the DCT Crescent Former on line

## UAE

### Star Paper Mill boosts capacity

Star Paper Mill (SPM) has increased its production capacity after starting up its DCT Crescent Former tissue machine in Abu Dhabi, UAE.

Supplied by Recard, the line has the latest flexi-nip shoe press technology, which the mill said enables it to achieve higher bulk and softness.

Machine deckle is 3.6m, and its two rewinders have a capability of rewinding up to 4ply tissue products.

SPM will produce a wide spectrum of hygienic tissue paper Jumbo Reels in various grades ranging from 12.5gsm to 38gsm towels as well as facial, toilet, napkin, kitchen towel, maxi, centerfeed, auto-cut, industrial rolls and hand towels.

The annual production capacity will be

around 40,000 tonnes of prime-quality virgin tissue paper.

SPM managing director Majid Rasheed said: "We are striving to follow the best environmental practices and to source pulp from responsibly managed forests including FSC-certified.

"We will offer products that are manufactured to the highest standard of

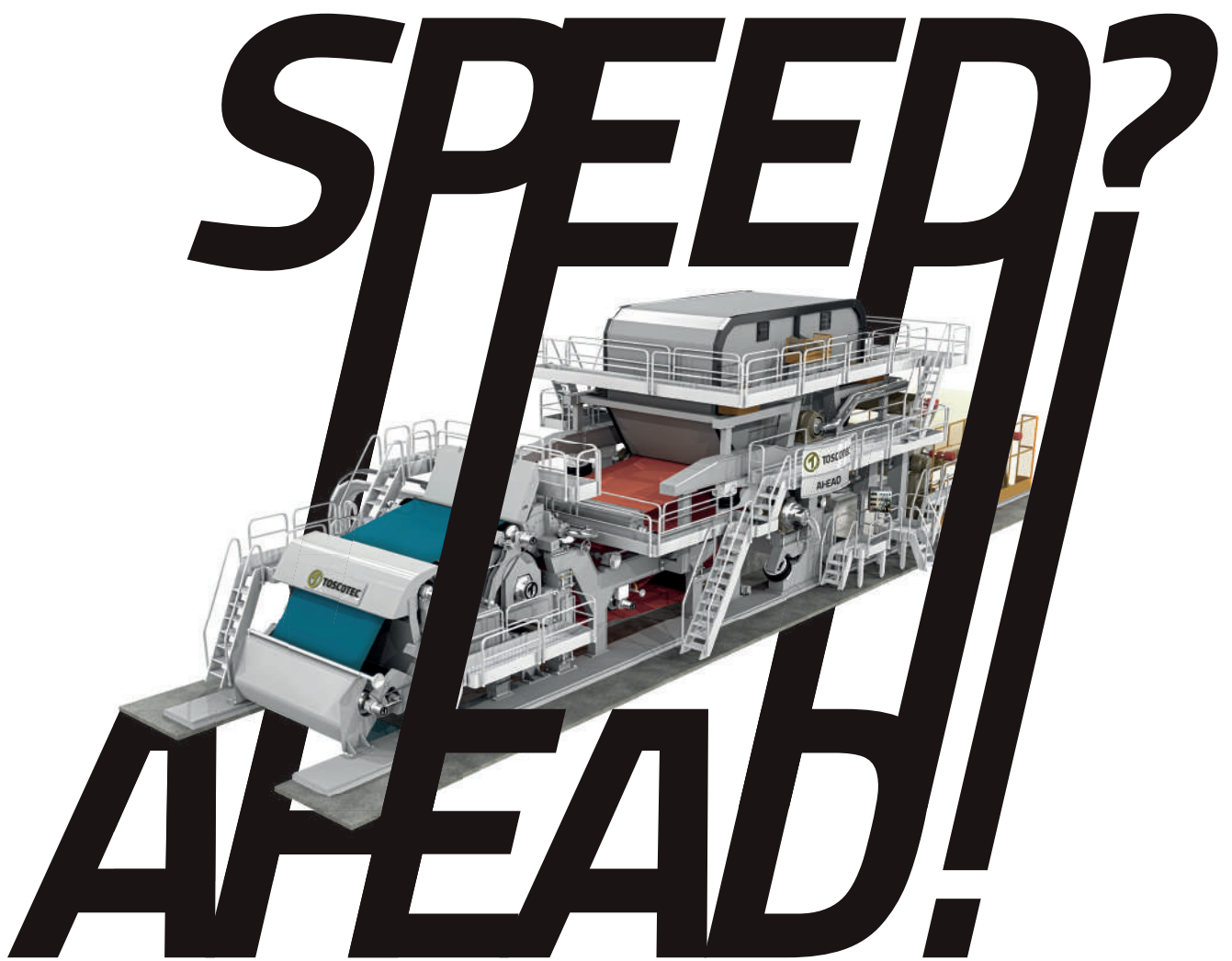
quality.

"Our specialisation will be in value added products such as low gsm facial tissue, ultra-soft and smooth tissue, lotionised tissue with a satin finish, bonded napkins, multicolour printable white napkin tissue and very high wet strength towels.

"We will also be producing pastel shades tissues," he said.

**STAR PAPER MILL HAS INCREASED ITS PRODUCTION CAPACITY AFTER STARTING UP ITS DCT CRESCENT FORMER TISSUE MACHINE IN ABU DHABI, UAE. SUPPLIED BY RECARD, THE LINE HAS THE LATEST FLEXI-NIP SHOE PRESS TECHNOLOGY, WHICH THE MILL SAID ENABLES IT TO ACHIEVE HIGHER BULK AND SOFTNESS.**





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# THE US TOPS THE LIST TODAY — BUT FUTURE CONSUMPTION RATES COULD GO UP OR DOWN

Last year Fisher International gave a presentation on "Issues Keeping Tissue Executives Up at Night," in which it was suggested that pulp prices and tissue mill integration, e-commerce, new technology and capacity, and sustainability were significant disruptors to tissue manufacturers in several regions of the world. In less than a year, fibre prices have changed course, but the other disruptors continue. How is this playing out in the United States tissue business, and should its executives be sleeping soundly?

The United States can be considered the home of the modern tissue business by several standards. The USA tissue market (Philadelphia, Pennsylvania) was the origin of Scott® tissue in the roll format now used around the world. Creped wadding was developed in Neenah Wisconsin for bandages in World War I. This led to Kleenex®, which was first established as a makeup remover and then as facial tissue, and Northern® bath tissue (Green Bay), the first "no splinter" brand without mechanical pulp. Charmin® bath tissue (Green Bay) was the first brand to use through air drying (TAD).

Today, Americans use about 25kg per person in a year, the most tissue per person of any country in the world. Significant company research continues for branded product differentiation, however, there is no longer any supplier of new tissue machines located in the United States, and Yankee dryer production in the USA stopped 50 years ago. It is interesting to consider that the country with the most advanced tissue machines and intensive tissue consumption no longer manufactures or develops sophisticated tissue making equipment.

The country has enjoyed a remarkable long-term recovery since the great recession of 2007. GDP growth has been slow but improving while inflation continues to be very low. The unemployment rate has declined steadily and has now reached all-time lows, while the 2018 population growth was 0.8% due to low birth rates and lower immigration compared to similar countries such as Canada. Similar to Europe and Japan, the United States population is aging, and this can be expected to shape tissue demand in the future. Now global trade restrictions and the age of the current economic expansion have added to the economic headwinds from the United States maturing population.

Figure 1 shows the five-year development



**Bruce Janda**  
Senior consultant, Fisher International

of the United States global tissue trade business. Tissue imports, including parent roles and converted products, have been steady at less than 10% of total domestic capacity. However, tissue imports have been growing and could reach two times the level of exports in the next two to three years if this trend continues. Figure 2 shows the top seven trade partners that make up the vast majority of all United States tissue trade. Canada has the largest share with an essentially balanced trade. Imports from China have proliferated in the past five years and now are almost equal to imports from Canada. Mexico's tissue trade is two-way, like that of Canada, and imports from



Figure 1

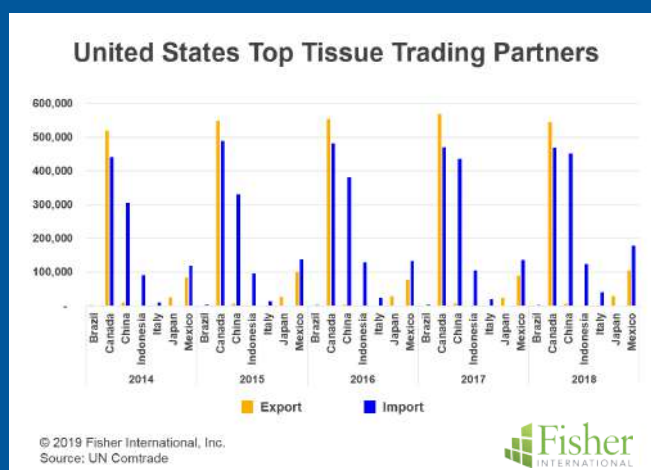


Figure 2

Indonesia are growing. The new Brazilian tissue capacity has not shown up on the 2018 UN Comtrade data.

The United States tissue fibre sources are shown in Figure 3, and 37% of the total tissue furnish is from recycled paper. This is not surprising as the commercial or AfH tissue business is primarily supplied with recycled fibre to meet government bid requirements. The consumer or at-home tissue market consumes much less recycled fibre. The small amount of mechanical fibre shown can include BCTMP used in towels to build bulk and absorbency. The United States tissue business has the highest degree of fibre integration with virgin pulp production of any developed country.

Figure 4 shows the relative size of tissue finished product categories. Consumer bath tissue and kitchen roll towels are the most significant categories, closely followed by commercial and towels. It's worth noting that the United States has the world's most developed commercial tissue business. This represents more than 30% of the total tissue consumption and contributes to the high per capita usage reported. It also makes USA tissue demand more closely tied to the economy and travel habits of the

**ABOUT 41% OF TISSUE MACHINES IN THE UNITED STATES USE ADVANCED TISSUE TECHNOLOGY. THE MAJORITY OF THESE ARE TAD, BUT ALSO INCLUDE ATMOS, NTT OR QRT, AND ETAD. FIGURE 5 SHOWS THE DEPLOYMENT OF THESE TECHNOLOGIES BY PRODUCT GROUP. CONSUMER BATH HAS THE MOST EXTENSIVE USE OF ADVANCED TECHNOLOGIES FOLLOWED BY CONSUMER KITCHEN ROLL TOWEL. ADVANCED TECHNOLOGY APPEARS TO BE A CLEAR WINNER FOR CONSUMER TOWEL PRODUCTION, BUT COMMERCIAL TOWELS ARE ALSO SEEING INCREASED USE OF ADVANCED TECHNOLOGY.**

population than merely consumer tissue.

About 41% of tissue machines in the United States use advanced tissue technology. The majority of these are TAD, but also include ATMOS, NTT or QRT, and eTAD. Figure 5 shows the deployment of these technologies by product group. Consumer bath has the most extensive use of advanced technologies followed by consumer kitchen roll towel. Advanced technology appears to be a clear winner for consumer towel production, but commercial towels are also seeing increased use of advanced technology.

Figure 6 and 7 help illustrate the impact of advanced technology on fibre consumption. Figure 6 shows the United

States tissue manufacturing cost versus its seven closest trading partners. Indonesia and Mexico have somewhat lower costs per tonne of tissue production, but the United States position is similar to most of the others.

However, taking advanced technology's effect on basis weight at equivalent performance into account, American tissue producer's cost becomes more competitive when shown on a statistical case basis (Figure 7). Figure 8 shows that only Mexico and Canada have significant deployments of advanced technology machines to take advantage of this effect.

Figure 9 provides a comparison of tissue machine quality among the United States

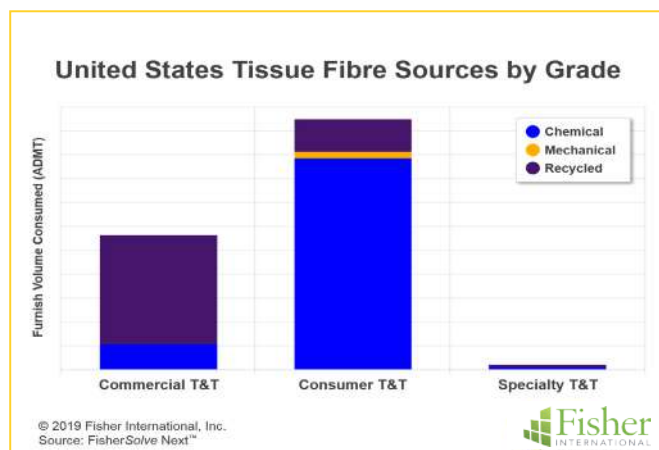


Figure 3

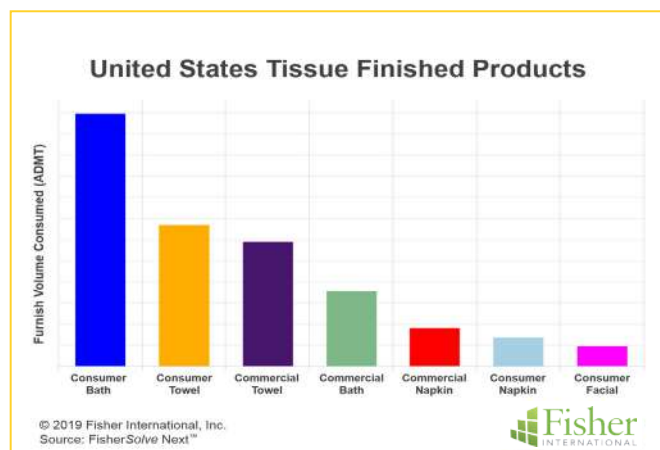


Figure 4

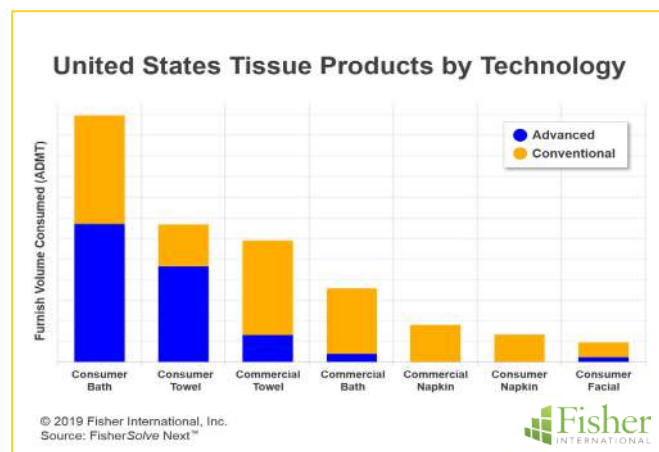


Figure 5

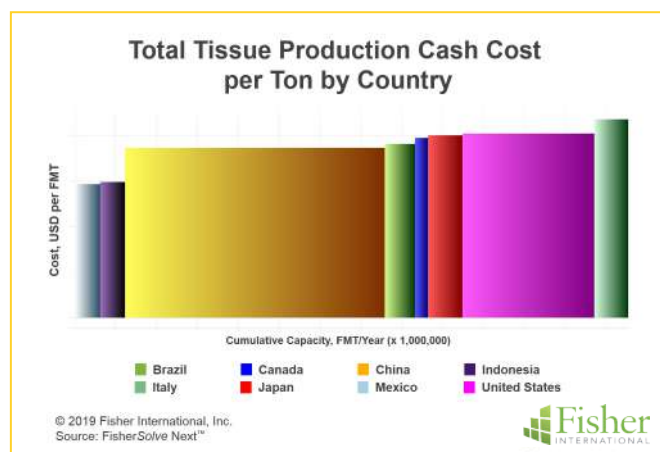


Figure 6



tissue trade partners. The average tissue machine technical age is shown on the x-axis while the average tissue machine trim is the y-axis. The size of each bubble represents the country's relative tissue capacity.

Indonesia and China have by far the newest tissue machines, but they are also relatively narrow. The United States, Canada, and Japan have the oldest machines, but the United States has by far the widest machine average in the group. This suggests that the average productivity of the machines should be relatively high.

Figure 10 provides a comparison of the use of water and water risk for each of the trade partners. The x-axis represents the average water consumption per tonne of each tissue machine, and the y-axis represents the average water availability risk.

Brazil, Canada, the United States, and Japan all have relatively low water availability risk. Mexico, China, Italy, and Indonesia all have higher water risks. All water risk is local, and country averages should be examined by region if the country encompasses several geographic areas.

Canada, Japan, and the United States all have higher than average water consumption. With low water availability risk, the main issue is the potential to close up the mill and save on water expense.

The number of companies involved in United States tissue manufacturing has increased significantly in the last 15 years. Many new mills, tissue machines, and new capabilities are now operating. Private label tissue now accounts for more than 30% of the total consumer tissue volume in the United States. Most producers of branded tissue products have reduced or maintained capacity resulting in a loss of market share. Figure 11 shows the change in the number of tissue lines since 2007. There's been much activity

**BRAZIL, CANADA, THE UNITED STATES, AND JAPAN ALL HAVE RELATIVELY LOW WATER AVAILABILITY RISK. MEXICO, CHINA, ITALY, AND INDONESIA ALL HAVE HIGHER WATER RISKS. ALL WATER RISK IS LOCAL, AND COUNTRY AVERAGES SHOULD BE EXAMINED BY REGION IF THE COUNTRY ENCOMPASSES SEVERAL GEOGRAPHIC AREAS. CANADA, JAPAN, AND THE UNITED STATES ALL HAVE HIGHER THAN AVERAGE WATER CONSUMPTION. WITH LOW WATER AVAILABILITY RISK, THE MAIN ISSUE IS THE POTENTIAL TO CLOSE UP THE MILL AND SAVE ON WATER EXPENSE.**

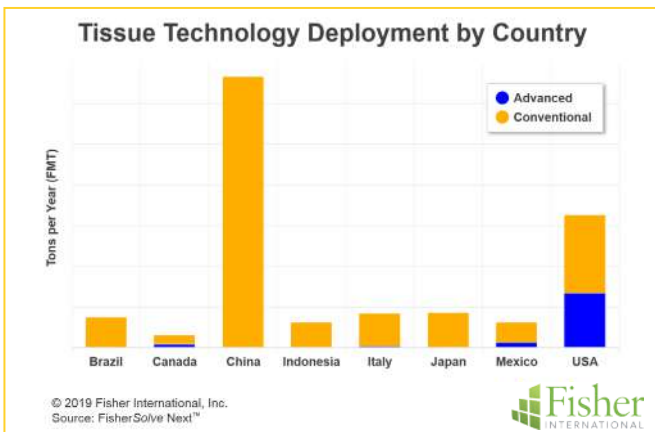


Figure 8

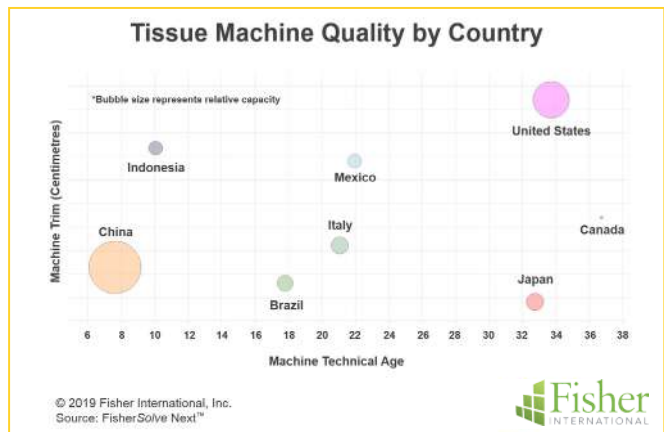


Figure 9

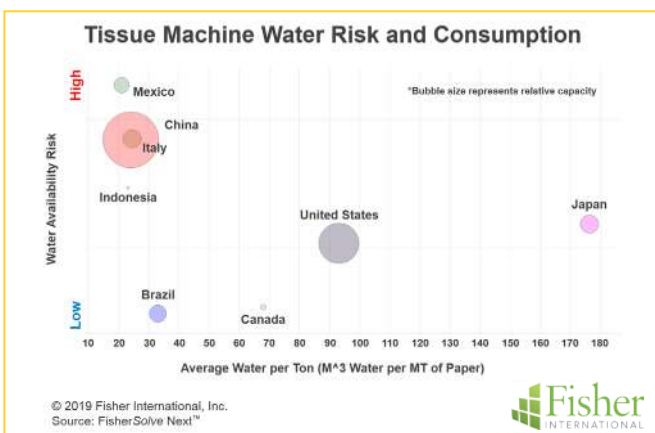


Figure 10

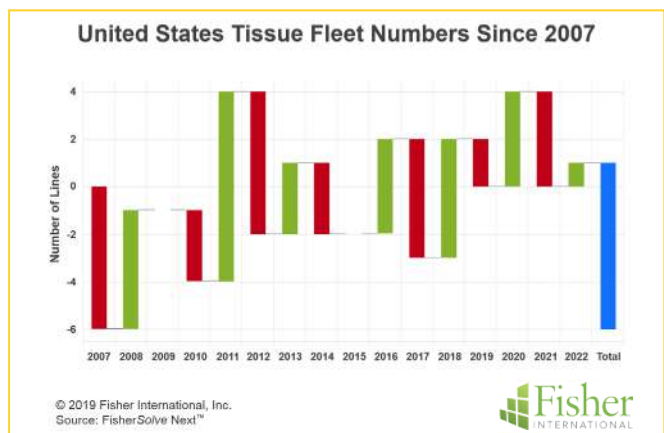


Figure 11

and new companies involved, but the overall number of tissue lines operating has not increased as much as a casual review of the News might suggest. Through 2022, the forecast is for a net reduction of seven tissue lines since 2007. Of course, the new lines are considerably faster and perhaps wider than the lines removed. Whether the American tissue market has been overbuilt or underbuilt depends on the assumptions made in forecasting market direction.

The United States tissue business has undergone significant change with many new manufacturing companies stepping in, increased consumer private labels, new technologies in addition to TAD, and a whipsaw of virgin pulp and recovered paper pricing recently due to changes in China's furnished sourcing. It appears that overall tissue capacity has increased at about the same rate as the population. However, the

future seems somewhat unclear.

This analysis has raised as many questions as it answered. Will the United States economy and consumer culture continue to support the world's highest per capita tissue consumption? Has the consumption rate topped out, or is there room for increased penetration into toweling or other discretionary uses? It is certainly possible to make a case that American consumer behaviour could regress to the mean of the different advanced countries consumption rates if a social focus changed to using less disposable items and sustainability. However, it's also possible to project that increased interest in sanitation and disease control could drive both commercial hand towel and consumer towel consumption further.

The fragmentation of branding has resulted in increased short sheeting and narrow rolls.

Could this have made a one-time change reducing basis weight per consumer use that will not repeat? It's possible to imagine both higher and lower consumption rates. American tissue manufacturers just passed through a period of very high virgin pulp pricing and corresponding low recovered paper costs. Will this change the mix of fibre sourcing for both new mills and rebuilds? Will the interest in non-wood pulp sourcing grow? Will an increased interest in sustainability result in more energy efficiency measures such as cogeneration? Is there a future for high energy consumption TAD that now makes up such a large percentage of the capacity? Will the advanced alternative structured technologies replace TAD? Could e-commerce start to grow fast enough to disrupt branded and private labels sold in stores? American tissue manufacturers will be looking for answers to all of these questions.

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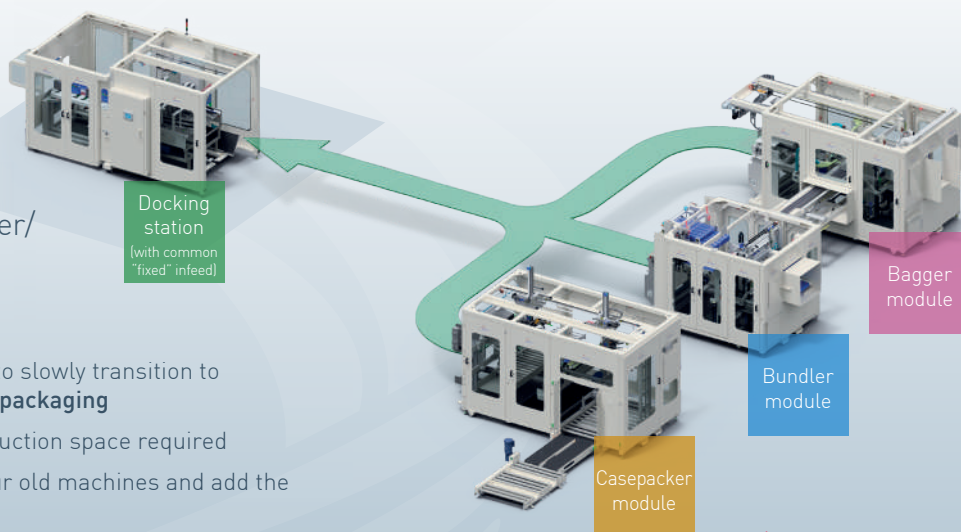
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# CONSUMER TISSUE IN THE US: FROM STRUCTURAL CHALLENGES TO INSURGENT DTC BRANDS — LATEST IN THE INDUSTRY DYNAMIC

In 2018 retail sales of consumer tissue in the US remained flat in nominal value terms (declined in real value), although still generating a very respectable USD18bn. In volume terms, the market has seen a decline in 2018, and it is projected to remain largely in the negative territory over the next five years. As key macro-fundamentals continue to shape demand and sales, slowing economic projections and persistent low levels of population growth (well under 1%) will continue to impact the industry. On the positive side, spending in AfH space picked up, as more US consumers dined out and have been traveling more. In fact, the number of nights spent at hotels in the US increased in 2018, pushing up the demand for tissue products.

US remains one of the key global markets for the tissue industry, although now ranking second after fast developing China in value and volume terms. Subsequently, understanding challenges and opportunities ahead in the US market, coupled with consumer sentiment with respect to private label vs brands and pricing, will remain of significant importance to the industry.

On the whole, the US retail tissue market

has long reached its potential in terms of per capita consumption. In fact, per capita consumption of tissue products in the country is already among the highest in the world, far ahead of many other developed markets, leaving no room for the industry to drive organic growth to any significant extent. Slowing GDP projections, lack of significant boost to birth rates (not the least also due to the fact that more women chose not to have children), and ongoing risks of US-China trade wars can further reduce the expected growth in the market. Trade wars can lead to further increases in prices in retail, in addition to price increases already implemented in 2018, thereby forcing consumers to re-evaluate their spending priorities.

Further price increases on consumer products, including tissue, will likely face challenges. While there is certainly a consumer base of higher income households that is not likely to change their spending patterns dramatically, Euromonitor lifestyle surveys continue to demonstrate that many consumers in the US intend to increase their spending in discounters and spend more on private label in 2019. In fact, the proportion of



**Svetlana Uduslivaia**  
Euromonitor International's  
head of tissue & hygiene industry

respondents planning to increase their spending on private label in the coming 12 months went up from 14% in 2011 survey to 17% in 2017 survey to 19% in 2019 survey, backing up an upward demand trend for value segment and private label.

In 2018, private label in the US accounted for 27% of retail tissue sales. While concerns (or hopes – depending which side you are on) that the private label in US can capture more share of sales to reach the levels of Western Europe remain unfounded, current strength of private

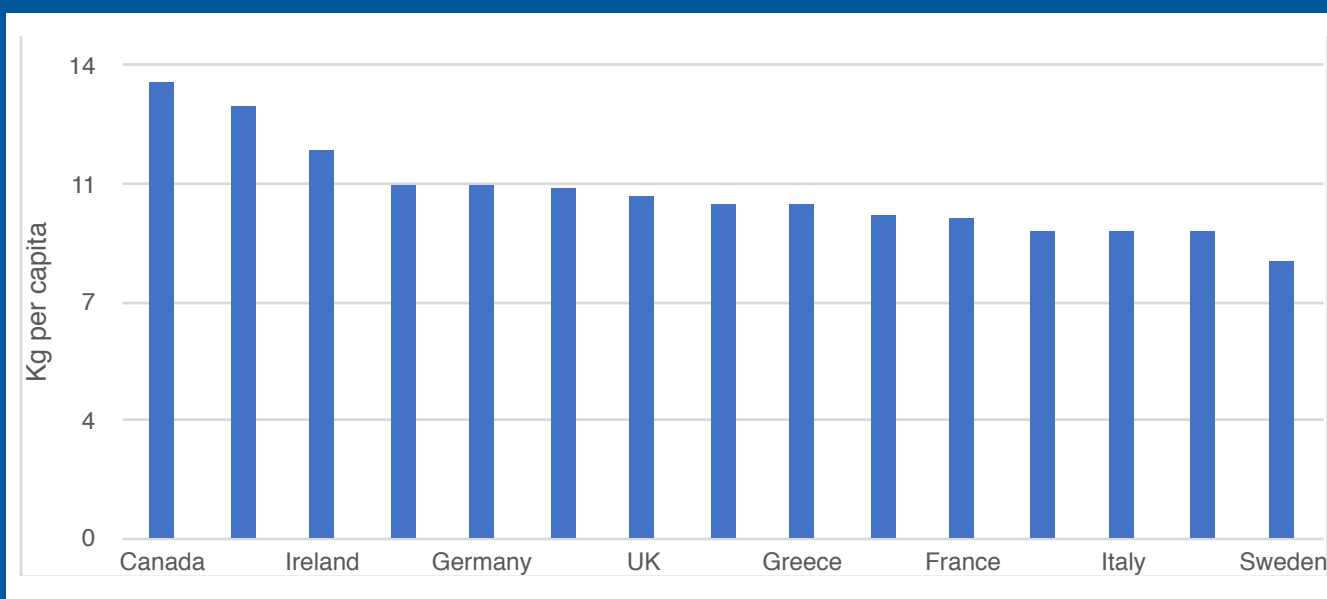


Table 1: USA, retail sales, volume, '000 tonnes, 2013/2018/2023.

Source: Euromonitor International

label and solid consumer base of private label tissue already put sizable pressure on branded products, often at times pushing innovation further into polarising domains of premium or value on the part of both brands and private label.

Adding to the pressure is continuing expansion of Amazon into private label space. The retailer's own Presto! tissue brand appears first and front with current search on, for instance, toilet paper. Furthermore, search results loudly and proudly announce that Presto! is among the top rated Amazon's private and select exclusive brands.

While pressure from private label continues on the one hand, there is also a range of smaller niche brands gaining ground in retail tissue. Some of these brands are tapping into the convenience trend, with online direct to consumer (DTC) shipping. Many insurgent brands also appeal to those who seek to be more environmentally-friendly as well as seek out brands with social and community-oriented agenda. An example can be found in a rising Australia-based brand Who Gives a Crap, now available online in a number of markets, including the US. The brand allows users to order once as a trial or start a subscription to receive products monthly. The brand also features products made from recycled fibres as well as premium positioned products made from bamboo fibres. The company also donates half of its profits to build toilets in places where there were previously none, mainly in the developing world. A combination of DTC model, environmental and ethical messaging as well as community involvement have appeal to a large portion of consumers. Euromonitor lifestyle survey released in 2019 indicated that 57% of

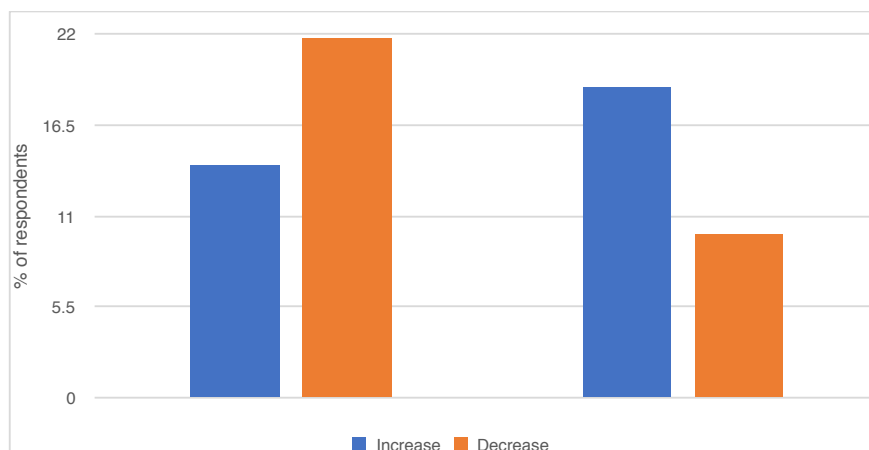


Table 2: Spending in the next 12 months, % of US respondents to increase/decrease spending on private label, 2019. Source: Euromonitor International Lifestyle Surveys, 2011 and 2019

US respondents strongly agree/agree that they try to have a positive impact on the environment through everyday actions.

This is not to say that all is gloom and doom for the key industry suppliers and brands. As Euromonitor discussed in previous analysis, products that provide

continue to support the category. Paper towels are viewed as multifunctional products – from cleaning houses and surfaces to cleaning hands. Availability of paper towels in different formats and sizes also help the category, as they respond to a variety of household needs.

**ADDING TO THE PRESSURE IS CONTINUING EXPANSION OF AMAZON INTO PRIVATE LABEL SPACE. THE RETAILER'S OWN PRESTO! TISSUE BRAND APPEARS FIRST AND FRONT WITH CURRENT SEARCH ON, FOR INSTANCE, TOILET PAPER. FURTHERMORE, SEARCH RESULTS LOUDLY AND PROUDLY ANNOUNCE THAT PRESTO! IS AMONG THE TOP RATED AMAZON'S PRIVATE AND SELECT EXCLUSIVE BRANDS.**

tangible benefits to consumers always have their place in the households. Thus, for instance, the paper towels category in the US saw a somewhat better performance in 2018 compared to the previous year. While price increases did play a role in boosting nominal value up, product positioning and improvements in quality and strength also

Paper towels continue to be popular purchases at home improvement stores such as Lowe's and Home Depot, where consumers have been increasingly buying household essentials for home maintenance and cleaning.

All in all, the US retail tissue market will remain challenging for the industry, with estimated unmet potential at about USD360m. Hence, the battle for share of consumer spending between brands – mainstream and insurgent – and private label will remain fierce. Cost efficiencies will be the focus to improve margins, since price increases can only go so far in view of strong attention on discounters and private label by a large portion of consumers. On the competitive side, product quality, sustainability, ethical messaging, and community involvement will be increasingly important to secure consumer attention.

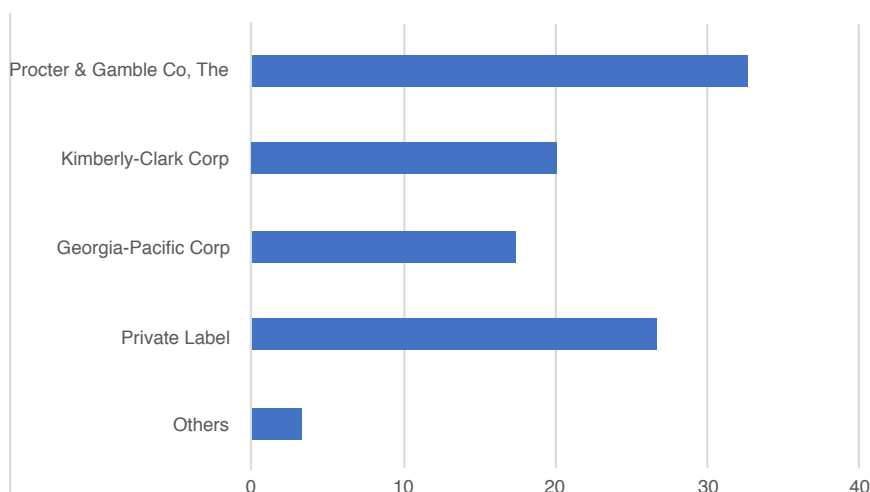


Table 3: Branded products vs private label retail tissue, % value share of sales, 2018  
Source: Euromonitor International





**Modernising process:** the Green Bay-based company has two sites with 75,000sq ft of manufacturing and 40,000sq ft of warehouse, converting around 20,000-30,000tpy.

## “US TISSUE IS GROWING AT 1-2%... WE ARE GROWING IN EXCESS OF 20% A YEAR.”

The future is electronic intelligence, robots and Human-Machine Interface. At this Green Bay converter financial support is offered for schooling and several personnel are going to technical school to become electrical or mechanical engineers.

**“WE ALSO HAVE JUST UNDER 50 STAFF. IN ALL HONESTY, I COULD NEVER HAVE DONE THIS WITHOUT MY STAFF HERE. THEY WORK VERY HARD AND ARE DEDICATED. THAT’S WHAT MAKES IT SO MUCH FUN FOR ME AND I LOVE WHAT WE’RE DOING HERE.”**

**B**edford Paper is located in De Pere, Wisconsin, where it manufactures tissue paper products for the AfH and At-Home markets. Its product offering includes single roll bath products, household towel, jumbo bath, hardwound towel, centerpull towel, Multi-fold and C-fold towelling. TWM interviews company owner Howard Bedford and sales and business development manager Steve Peters.

### TWM/1: When did you establish Bedford Papers?

Howard Bedford: “I knew nothing about toilet paper seven years ago when I invested in this company. I took it over and told the employees: “We can go big, or we can go home”. And the employees said: “Let’s go big!”

“So at that point we decided to become a state-of-the-art facility. At that stage, I probably had more guts than brains as I knew nothing about this industry, so it’s been a steep learning curve. The first new machine we purchased was a multifold supplied by Bretting, followed by a PCMC Forte Industrial Winder.

“When we invested, it was already an ongoing tissue converting and speciality products business that had some very mature assets, they were older and slower. We had a machine here from the 40’s. So it was really necessary for us to invest and modernise. We now have 75,000sq ft of manufacturing and 40,000sq ft of warehouse, two sites here in Green Bay, and we convert around 20,000-30,000tpy.

“We also have just under 50 staff. In all honesty, I could never have done this without my staff here. They work very hard



and are dedicated. That's what makes it so much fun for me and I love what we're doing here."

### TWM/2: What machinery investments have you made and why?

Steve Peters: "We have the Bretting multifold machine, a PCMC Forte Industrial Winder and have now added a PCMC Forte Ultra high-speed rewinder with a PCMC Omnia Embosser laminator with downstream packaging equipment for the At-Home and AfH market. They were installed in 2017 as we needed to increase our production capacity for retail and AfH tissue products.

"They are all brand new lines, and one of the best things is that when those three lines were added, it was with state-of-the-art equipment on the back of full automated, included robotic palletising. So it really changed the type of company we were and what we could produce."

### TWM/3: Have you diversify your product offering?

Bedford: "We started out initially in the AfH market but with the new lines we have

**"WE STARTED OUT INITIALLY IN THE AFH MARKET BUT WITH THE NEW LINES WE HAVE MOVED INTO RETAIL. OUR PORTFOLIO IS PRETTY DIVERSE AND WE HAVE A BALANCED MIX WITH AFH, LIMITED PRIVATE LABEL AND ALSO LIMITED RETAIL BATH AND TOWEL."**

moved into retail. Our portfolio is pretty diverse and we have a balanced mix with AfH, limited private label and also limited retail bath and towel. We have brands but we also do private label. We have a balanced portfolio between those three markets."

### TWM/4: What tissue products are growing in popularity with American consumers?

Peters: "Our AfH product offering is very comparable with what you will find with any of the other majors or mid-tier converting companies. It is recycled in nature. We are using the same materials as anyone in the market but with our converting assets we are able to provide a superior quality converted product.

"And then on the retail side, we have the capability to manage any type of substrate. Whether we're converting a TAD material,

an NTT material or virgin or recycled – we're seeing increased demand for all of this in America - our retail converting capabilities can accommodate this. Display-ready bundles are also very popular and the packaging can also satisfy anything an AfH or retailer may require."

### TWM/5: What trends generally are you seeing in the USA market?

Bedford: "Demand for tissue products has been very steady these last few years. The AfH market is definitely getting more particular towards higher-quality products. And that follows suit with our business strategy. In AfH, it's mid to high-quality that we target. We don't do anything lower end, we're not into the seconds or off-quality paper market and we don't get supplies from China. It's all American mills, so it tends to be mid to higher quality stuff."



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**TWM/6: Are you finding that e-commerce is changing how people buy tissue products?**

Peters: "Given our business model, we might support the people in e-commerce, but we don't do anything directly of that nature. Most of our deliveries are full truckloads of one product. With the speed of these new machines, we try to have a truck for each product."

**TWM/7: Tissue demand is steady in the US market, but is there growth, and are you looking to grow also?**

Bedford: "Relative to our business and the growth of the converting assets that we've put in, our business has naturally grown because we've added capacity.

Within the past year we have also added our own Bedford Paper brand and we are seeing very good success in the mid-west with that particular product line.

"We discussed just this morning how big a space we're going to be looking at growing. This building, we're bulging at the seams at 120,000sq ft and we are looking to expand it substantially. Whether we do it here or across town we're not sure yet. But we will maintain our presence in Green Bay.

"For the US tissue market, it's growing around 1-2%, but we are growing in excess of 20% per year. When you add new assets with the quality they have, you can do things more efficiently which means less expenses.

"If you go to robots and automation, you don't have as much personnel operating the equipment any more. Now we have technicians. We also offer financial support for schooling and several of our personnel are going to school at night to become

electrical or mechanical engineers, because being able to do those sorts of things, that's where the future is going. It's going into robotics and Artificial Intelligence, and computers and HMIs. So these guys are making themselves more valuable to themselves and also more valuable to Bedford Papers.

"Employment in Green Bay is full employment, so it is tough to find people here. Training in the old machines was one week, these new machines take 12-15 months before you're really good."

Peters: "Because of the converting assets that we have it's more automated with the casepacking and robotic palletising, we don't require the size of staff that other companies may need. We can operate with less people and significantly produce what we might have done at other levels."

**TWM/8: Is your aim to continue that 20% year on year growth, and if so, how will you do that?**

Bedford: "Yes. We're looking at additional converting lines in the next couple of years and we are also evaluating other sites within the United States. As long as you have converting assets you require more staff. But we are generally seeing growth coming through in increased productivity and improvements in up-time.



**Natural growth:** the company has added its own Bedford Paper brand in the past year.



**High automation:** investment in casepacking and robotic palletising has improved efficiencies.

### TWM/9: With the increasing popularity of Lidl and Aldi retail stores in America, is private label an opportunity for you?

"It's definitely an opportunity for us."

### TWM/10: How have pulp prices impacted you and the market here?

Bedford: "Prices have settled, last year was a very difficult time. I've only been in the industry for a few years, but from my understanding it's rare to see more than one pulp price increase in a year, last year we saw four to five from several suppliers. In the last 17 years, my understanding is that there's probably been eight of those years when there was an increase at all. So last year was tough. But pulp prices are slightly coming down, not rapidly. With China and the tariffs, we're not sure what will happen this year."

### TWM/11: Have the Chinese tariffs impacted your business, or caused uncertainty?

Bedford: "It's not affecting us so much, it's just affecting the price of the pulp. China isn't taking as much waste as it was

doing before, so waste is building up in the USA. But I don't think we're going to see any 10% pulp price decreases here this year, even though waste has come down. I also don't think we'll see as many pulp price increases either this year."

Peters: "The pulp increases will still be there, just not as volatile. But I think there will always be continued pressure there."

### TWM/12: What are the key opportunities for you in the next few years?

Bedford: "For us, it's that we've established a very good reputation in the mid-west. The opportunities are then really in our branding. We want to continue to grow our Bedford Paper AfH brand in the mid-west, as well as providing support to select partners where we do private label or retail products."

"In terms of the opportunities for operating the business, it's what do we do in terms of improving productivity within the building and improve our up-time and efficiencies and productivity, given the demands of the workforce."

"With the amount of new machinery we have put in in the past few years, it requires a different technician to run them, and I believe we can be 10-20% more efficient in the next year, just with technicians having been here two to three years. We

have an internal initiative to make sure we stay ahead of the technology in the industry. Being the size we are, we have the capabilities and desire to really grow with the technologies as they grow in the industry."

"We are also starting looking at electronic intelligence on these machines. If a machine goes down, the electronic intelligence looks at why it went down, what are the two or three things you can do to make it better, so there are some big things coming out."

"All over the world with electronic intelligence, we're really excited about a Beta electronic intelligence testing project we're working on. But again, you need experienced technicians for this. We really take care of our employees here because the training really is expansive."

"That has been our biggest challenge: operating new technology with new people. However, that being said, the quality coming off this new technology is pretty nice! The folds are always perfect, the edges are perfect, the saws are better ... the new technology is four-10 times as fast. But you have to pay attention to it and embrace it properly."





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# FULLY INTEGRATED RESOLUTE TARGETS PREMIUM AND ULTRA PREMIUM PRODUCTION

Vertical control of production backed by major investment is driving this former leading newsprint producer towards growth in quality products and geographic reach. TWM interviews Resolute Tissue Group president Patrice Minguez.

**“OPERATING AT FULL CAPACITY, THIS NEW STATE-OF-THE-ART TISSUE MACHINE IN CALHOUN, ITS THREE CONVERTING LINES AND THE INTEGRATION OF PULP FROM THE EXISTING CALHOUN PULP MILL, WILL MAKE THIS FACILITY ONE OF THE MOST EFFICIENT IN NORTH AMERICA.”**

## TWM/1: Can you give an overview of the company's current presence in the US?

“Resolute Forest Products is one of the few fully integrated tissue manufacturers in North America. Our facilities give us a well-established presence in retail and AfH tissue product manufacturing and are ideally situated to serve US customers.

“Two of our three tissue manufacturing operations are located in Florida – one in Sanford (Orlando area) and the other in Hialeah (Miami area). The third operation is located within our Calhoun, Tennessee pulp, paper and tissue manufacturing facility.

“These three tissue mills have a combined annual production capacity of 128,000 short tonnes (116,000 metric tonnes) across four tissue machines and 11 converting lines. We produce a range of quality products for the retail and AfH markets. Our Calhoun state-of-the-art facility produces premium private label

tissue, while the company's Hialeah and Sanford mills manufacture branded and private label recycled and virgin paper grades.

“Branded grades include Green Heritage and Green Heritage Pro bath tissue and towel, Harmony, Harmony Pro and Harmony Pro Ultra tissue products.

“The company's Florida operations were acquired in 2015, allowing Resolute to enter the tissue market with established operations and customer base. The Sanford mill employs 72 individuals and the Hialeah mill provides jobs to 220 employees.

“The Calhoun, Tennessee mill began operations in 1954 and today is one of the largest pulp, paper and tissue manufacturing facilities in North America. The mill currently employs 537 individuals and produces specialty paper (one machine), market pulp (one pulp dryer) and tissue (one machine, three converting lines).”



**High efficiencies:** Resolute Tissue's new distribution centre in Tennessee

**"OVER THE PAST FOUR YEARS, RESOLUTE HAS MADE SIGNIFICANT INVESTMENT IN THE CALHOUN MILL TO IMPROVE EFFICIENCY, ADD CAPACITY, AND INSTALL A NEW TISSUE MANUFACTURING AND CONVERTING OPERATION."**

### TWM/2: What's the production breakdown?

"For tissue production, the Calhoun mill produces 60,000 tonnes per year of premium bath tissue and towel on one tissue machine and three converting lines.

"The Hialeah mill produces 31,000 tonnes of bath tissue, towel for the At-Home and AfH markets, on two tissue machines and seven converting lines. The Sanford mill produces 28,000 tonnes of bath tissue and towel for the At-Home and AfH markets, on one tissue machine and one converting line."

### TWM/3: What investments have you made recently?

"Over the past four years, Resolute has made significant investment in the Calhoun mill to improve efficiency, add capacity, and install a new tissue manufacturing and converting operation.

"In 2015, the mill added a large continuous pulp digester, growing its market pulp capacity by 100,000 tonnes and improving efficiencies. That year, the company also announced its direct entry into the growing tissue market with the construction of a state-of-the-art tissue machine and converting operation, manufacturing retail private label bath tissue as well as towel and bath for AfH markets.

"Today the tissue operation at Calhoun produces premium private label tissue for retail markets.

"In addition to the pulp digester, tissue machine and converting operation, the Calhoun facility recently opened a new \$20m distribution centre which houses all of the tissue manufactured at the mill. The centre encompasses 310,000 square feet of floor space, allowing the operation – at full capacity – to store over 798,000 cases of tissue products."

### TWM/4: What market trends are you currently seeing in the US tissue market?

"Resolute has historically been a leading producer of newsprint. However, the newsprint market has been in decline, and we have shifted our focus on transforming the company into a more sustainable organisation, one that can generate consistent value for shareholders through a competitive portfolio of manufacturing assets and a solid presence in long-term growth markets. We believe that the tissue market provides that opportunity for us.

"According to market sources, the US tissue market is growing at a pace of 1.5-2.0% annually, the equivalent of approximately eight million tonnes. In comparison, the newsprint market is declining at a rate of 16% on a year-over-year basis."

### TWM/5: What growth plans do you have for the next three years?

"Growth in tissue markets is strongest in the premium and ultra premium private label segments, and we are developing strategies that will allow us to capitalise on these markets by growing our customer base and extending our geographic footprint. The NTT tissue machine at Calhoun is well-positioned for growth in these markets.

"Resolute is a fully integrated manufacturer of quality products, and our tissue operations benefit from this vertical integration. These products are manufactured from recycled pulp and/or from virgin fibre (less than 3% sourced externally) from the company's internal market pulp network.

"This allows us to control the production process – ensuring precise control and consistent quality – while offering the flexibility..and customisation our customers



**"Opportunity in tissue":** Patrice Minguez, Resolute Tissue Group president

demand as we continue to develop our customer base.

"Operating at full capacity, this new state-of-the-art tissue machine in Calhoun, its three converting lines and the integration of pulp from the existing Calhoun pulp mill, will make this facility one of the most efficient tissue operations in North America."

### TWM/6: What are the key challenges you face?

"As with the start-up of any new complex machinery, the Calhoun mill's new NTT tissue machine presented us with a few challenges. However, our focus on learning how to efficiently calibrate the machine has paid off, and the machine has stabilised at near capacity production levels."

### TWM/7: And the key opportunities?

"Building sustainable operations. We're dedicated to meeting the needs of our clients, offering fully customisable, retail solutions. In addition to our custom products, we proudly offer readily available, options, designed to meet the needs of customers who don't wish to use their own labels. Products include Green Heritage and Harmony brands."

**"TODAY THE TISSUE OPERATION AT CALHOUN PRODUCES PREMIUM PRIVATE LABEL TISSUE FOR RETAIL MARKETS."**





# FULL-AUTOMATIC TRANSFER TISSUE INTERFOLDER

facial tissue and towel

## TYPE SOFIA

Tissue Paper

### SPECIFICATION

|                  |                              |              |                                    |
|------------------|------------------------------|--------------|------------------------------------|
| Design Speed     | 220M/Min or 15 cycles/min    | Paper Width  | Max. 3650mm                        |
| Operation Speed  | 180 M/Min. or 14 Cycles/Min. | Material     | Tissue Paper 、 Hand Towel          |
| Parent Roll Dia. | Max. Ø2500mm                 | Basis Weight | Tissue: 11-25gsm ; Towel: 33-40gsm |
| Unwind Stand     | 2, 4, 6, 8 (Up To 4 Ply)     |              |                                    |



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# ‘WE REALLY NEED TO TAKE RESPONSIBILITY FOR HOW WE LIVE AND THE IMPACT WE HAVE ON OUR PLANET AND OUR FELLOW HUMAN BEINGS’

**David Crosweller is the co-founder of the charity Sanitation First, a charity based in north Wiltshire, England, which currently works in Tamil Nadu, south-east India.**

**W**e set up Sanitation First in 1997 as we wanted to do something direct for donors, give them a real sense of where their money was going. Initially we were just a general-purpose charity – we were taking aid to the Balkans for the first three years – and then started to work in South Africa and Zambia working with children who were infected/affected by HIV/Aids.

We realised that a lot of children with weakened immune systems were dying after drinking dirty water, so we started drilling wells.

Of course, if you get involved with water, it is likely you get involved with toilets – and we did!

However, it was totally unconscious, and we just built toilets with no real thought about where and what it was polluting.

Then two things happened quite quickly, one after the other: first, my fellow co-founder was caught in the 2004 tsunami and we subsequently ended up building 160 houses in Sri Lanka, and second, while visiting south east India to view tsunami damage, a local NGO asked whether we were interested in building eco-friendly toilets.

This was a wake-up call for us. Although as individuals we would regard ourselves as environmentally-friendly, to date, it had not worked its way through to our work on the ground – would we use the toilets we were building ourselves, at home?

From that moment onwards, we only constructed what are officially known as urine diverting dry toilets (UDDTs), or ecosan as we call them.

On a daily basis circa 100,000 people use toilets we have built. We are now one of the world’s leading experts on UDDTs, their usage and the impact they have on people.

Indians generally do not use toilet paper, so we have no call for this product on site. But



because I had become very aware of issues surrounding sustainability, I became very conscious of the water and products I use at home – I use about half the UK average for household water consumption (eighty litres).

I haven’t bought paper towels for a while, tending to opt for absorbent, washable and recyclable cloths, and the wet wipes I have in the house are probably ten years old and I cannot remember when I last used one!

In 2018, I moved from using general recycled toilet paper to buying The Cheeky Panda. It is made from bamboo, which is far more sustainable than paper. I belong to a local food group and buy it through them, through a wholesaler.

When you work in countries overseas – we have built ecosan toilets in India, Kenya and Sierra Leone – you see the impact on their environment that is sometimes caused by decisions we make at home. Since 2005, the environmental impact of our work has been at the forefront of what we do. Our ecosan toilets do not pollute water sources and use minimal water. At a time when the

**I HAVEN’T BOUGHT PAPER TOWELS FOR A WHILE, TENDING TO OPT FOR ABSORBENT, WASHABLE AND RECYCLABLE CLOTHS, AND THE WET WIPES I HAVE IN THE HOUSE ARE PROBABLY TEN YEARS OLD AND I CANNOT REMEMBER WHEN I LAST USED ONE!**

Indian government is saying that currently 600m Indians are water stressed, and by 2030 the same people will be water bankrupt (and India is by no means unique), it behoves us to do what we can to save water.

We are proud of what we do, and I do what I can to follow the same philosophy in my daily life. We really need to take responsibility for how we live and the impact we have on our planet and our fellow human beings.



**Forest standards:** 99% of company owned tenures adhere to third party forest certification standards.





# CANFOR'S CIRCULAR ECONOMY INITIATIVES DRIVING ITS 'MORE VALUE, LESS IMPACT' STRATEGY

High tensile strength pulp, major reforest planting, a bio-crude oil program, and a commitment to maintain premium output with reduced carbon footprint is driving a sustainable future. By Paul Bicho, PhD, manager, optimisation and innovation, Canfor Pulp Innovation.



**By Paul Bicho, PhD**  
*Manager, optimisation and innovation,  
Canfor Pulp Innovation*

**S**ustainability has become an increasingly important criteria for leading tissue makers in their selection of pulp suppliers. "More value, less impact" defines Canfor's corporate values as well as the market approach for the company's pulp premium reinforcing fibres.

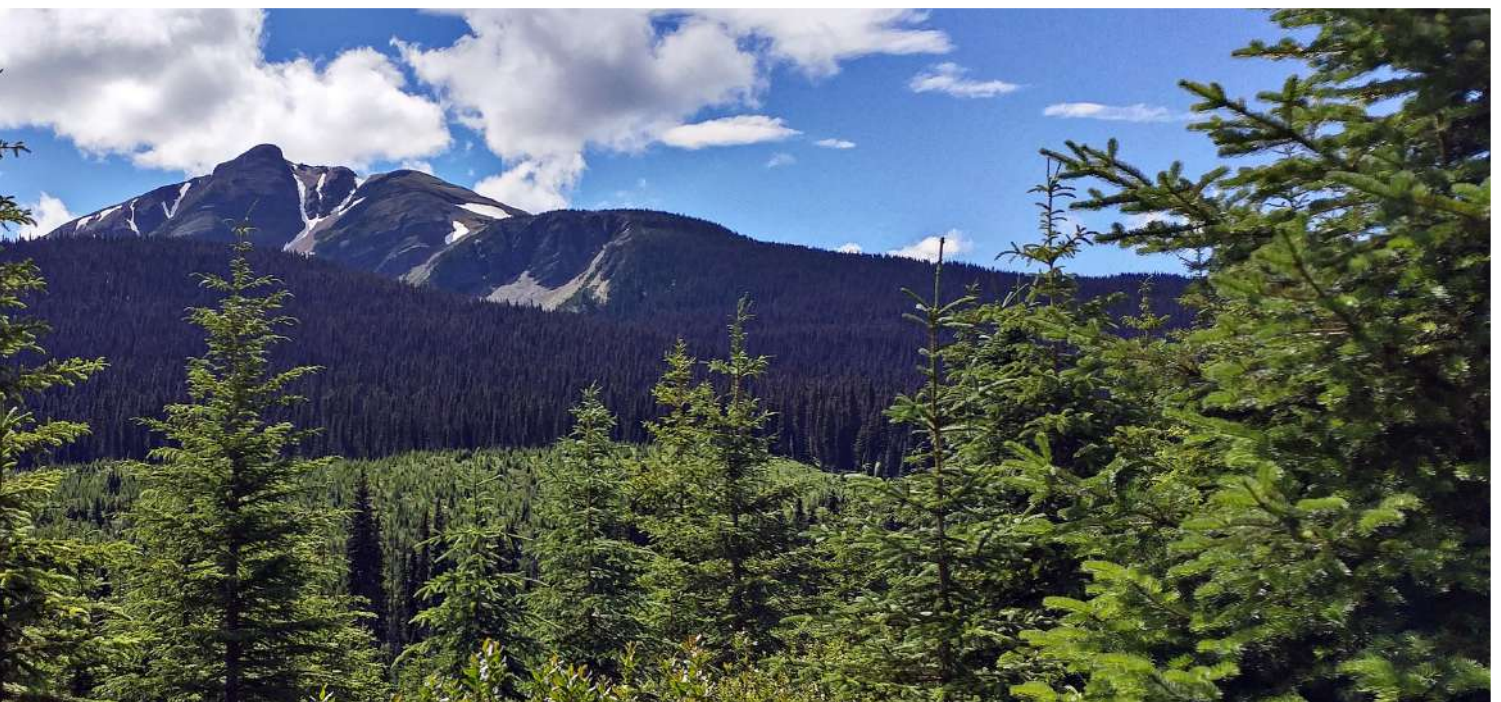
## Ensuring optimal fibre strength and softness

Our Northern Bleached Softwood Kraft (NBSK) pulp is among the highest tensile strength pulps in the world. This strength advantage is due to the long, low coarseness fibres that make up the pulps. For the tissue maker, these long, slender fibres contribute to strength with a minimal impact on softness. Premium tissue producers can use this strength advantage in several ways. They can reduce the softwood content in their sheet while still meeting strict quality requirements. The higher percentage of hardwood in the sheet will increase softness and reduce overall fibre costs without compromising quality. Some producers choose to use this added tensile strength to reduce basis weight and produce a more economical sheet. While others refine less and can reach their strength targets at a higher freeness (low SR). This is not only beneficial for tissue quality but lowers operational costs through increases in production rates and lower drying costs on the tissue paper machine. Canfor's premium pulp also enables tissue producers

to increase creping efficiency and provides superior run ability on both their paper machines and converting operations.

## The importance of forest certification

When it comes to sustainability, we focus on reducing our environmental impact by streamlining manufacturing and sourcing fibre from sustainably managed forests. We have a strong global reputation as a responsible forest steward. As an example, our company maintains forest certification on the 23 million hectares of forest licenses in Canada — 99% of company owned tenures adhere to third party forest certification standards. For all logged trees in Canada, the company replants the natural species back into the area of harvest. Canfor is one of a few forestry companies to have its own nursery to support its reforestation programme, and in 2018 planted 65 million seedlings, which is almost three trees for each tree harvested. Our pulp production uses sawmill residual chips that were 97% chain-of-custody-certified in 2018, giving their global customers confidence that they are buying pulp from well-managed forests.



**Climate control:** Canfor maintains forest certification on the 23 million hectares of forest licenses in Canada.



As one of the world's largest producers of sustainable lumber, pulp, paper and green energy production, we are constantly striving to add value with less environmental impact. The trees are primarily harvested for lumber, as wood is the only truly natural building product. Sawmill residual wood chips make up to 50% of the timber harvest and are the feedstock used by our pulp mills. Saw dust is converted into wood pellets that are exported as a green renewable energy source. The black liquor from the kraft process and residual bark ("hog") is used to generate biomass based steam, heat and electricity that is used to run our pulp mills. Any excess power is fed to the electrical grid. As a result, the company has become a leader in renewable energy with over 180 megawatts of biomass power generation capacity at its three kraft pulp mills in British Columbia, which is enough to power 150,000 homes.

### New technology for the circular economy

We have a vision to be a leader in the circular economy and have embarked on a major initiative that uses a clean, hydro-thermal reactor technology to produce bio-crude oil from forest residuals. Bio-crude can be used to produce fuels in conventional refineries. The growing, replanted forest will capture any carbon released by the bio-crude derived fuels thus reducing the overall carbon footprint of the fuel (relative to conventional fossil fuels).

Once commercialised, this innovative technology platform will displace some types of fossil fuels. The technology partners, Licella and Canfor Pulp, plan to integrate the bio-crude technology into the kraft mill operations as part of the pathway to reduce the carbon intensity of transportation fuels. This initiative is called Centree, and, once proven industrially, technology will be shared with other kraft mills to magnify the environmental benefits. Tissue customers demand high quality products from NBSK pulps that are produced in a sustainable manner and with our pulps, tissue makers can get both of these attributes. The forests Canfor harvests today are replaced with natural, biodiverse forests, not plantations, to ensure fibre for our future. By committing to the circular economy through its establishment of Centree, the company's mills will continue to reduce their carbon footprint.

*This article was written for TWM by Paul Bicho, PhD, manager, optimisation and innovation, Canfor Pulp Innovation.*



**Replacement-plus planting:** In 2018 Canfor planted 65 million seedlings, almost three trees for each tree harvested.



# Tissue

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# UPM TAKES A STEP CHANGE AS A PULP SUPPLIER INVESTING IN A WORLD-CLASS MILL IN URUGUAY

US\$2.7bn mill investment and a US\$350m boost to port and local logistics will increase pulp production capacity by more than 50%. By Sari Hörkkö, director, stakeholder relations, UPM Pulp.



By Sari Hörkkö  
Director, stakeholder relations, UPM Pulp

**A**t the end of July UPM made the decision to invest in a 2.1 million tonne greenfield eucalyptus pulp mill near Paso de los Toros in central Uruguay. The mill investment of USD 2.7 billion will grow UPM's current pulp production capacity by more than 50% from the current 3.7 million tonnes annually, resulting in a step change in the scale of its pulp business. In addition to the mill construction UPM will invest USD 350 million in port operations in Montevideo and local facilities in Paso de los Toros.

The prerequisites for the investment, including significant modernisation of infrastructure, have been carefully prepared in cooperation with the state of

Uruguay over the past three years. Among other preparations, site works for the mill and dredging of the port have already commenced, while tendering for the main equipment and manning of the project is ongoing. The mill is scheduled to start up in the second half of 2022.

## State-of-the-art mill to produce premium pulp

The new pulp mill has been created as an efficient single-line operation representing state-of-the-art design in the pulp industry. The machines, materials, level of automation and standards enable a high operating rate and maintainability, consistent quality premium pulp as well as high energy output, ensuring excellent safety and environmental performance.

The mill is designed to fully meet strict Uruguayan environmental regulations, international standards and recommendations for modern mills, including use of the latest and best available proven technology (BAT).

The environmental performance of the mill will be verified with comprehensive and transparent monitoring. In addition, the safety and sustainability performance of the entire value chain from plantations to customer delivery is expected to be on an industry leading level.

When in operation the mill will generate

a surplus of around one TWh of renewable wood-based electricity annually – providing a stable source of revenue and strengthening Uruguay's energy balance.

## Efficient wood supply and logistics

Availability of sustainably sourced eucalyptus wood for the new mill is secured through UPM's plantations on its own and leased land as well as through wood sourcing agreements with private partners. UPM's 30-plus years' experience in plantation operations in Uruguay secures well managed and productive plantations which produce high quality pulp raw material.

Efficient logistics to ensure supply security from the new mill into global markets will be secured by road improvements, extensive railway modernization and construction of a port terminal.

UPM will build a deep sea pulp terminal in Montevideo's port with an investment of approximately USD 280 million. Direct rail access from the mill to this modern deep sea port terminal creates an efficient supply chain to world markets.

## Significant economic boost

Based on independent socioeconomic impact studies, the new pulp mill is estimated to increase Uruguay's gross national product



**Efficient single-line operation:** Artist's impression of UPM's new 2.1m tonne greenfield eucalyptus pulp mill in central Uruguay



**Sustainable eucalyptus plantations:** Ensuring natural biodiversity

by about 2% and the annual value of exports by approximately 12%.

Construction of the mill will provide job opportunities for individuals and companies globally. In the most intensive construction phase, there will be more than 6,000 workers on the site. When completed, approximately 10,000 permanent jobs will be created in the Uruguayan economy – 4,000 of those directly employed by UPM and its subcontractors. About 600 companies will be working in the value chain.

In addition the company will also fund improvement of the municipal wastewater treatment plant and restoration of the municipal landfill in Paso de los Toros. Local investments outside the mill fence total USD 70 million. UPM will also invest in a new residential area in Paso de los Toros and provide temporary housing for personnel employed by the project.

### Long term commitment in sustainable eucalyptus plantations

In Uruguay UPM today operates a eucalyptus pulp mill in the southwestern town of Fray Bentos, as well as a forestry and wood sourcing company – UPM Forestal Oriental – which has two nurseries that produce high quality seedlings for UPM's tree plantations.

Establishment of these eucalyptus plantations started at the beginning of 90s on former grazing land and they have thus not replaced native forest or arable land. From the beginning UPM has followed a clear vision and strategy on how to

establish, develop and manage eucalyptus plantations sustainably. All of UPM's eucalyptus plantations are certified to both FSC® and PEFC™ standards and all forestry operations are based on the standards of sustainable forest management.

Today UPM manages over 380,000 hectares of plantations in Uruguay. These supply wood for the UPM Fray Bentos mill and will also supply the new mill in central Uruguay.

Eucalyptus trees grow fast and seedlings will provide wood within 10 to 12 years. Still, what is done in the plantations is long term work – seedlings planted today will be available as wood on the mills' fibre lines 10 years from now.

UPM mainly grows *Eucalyptus grandis* and *E. dunnii* species but also hybrids between different species have been developed. A genetic improvement programme which is based on traditional breeding techniques familiar from agriculture has significantly enhanced the wood yield and fibre quality.

### UPM Euca pulp for versatile tissue products

The Fray Bentos pulp mill started operations in 2007. Its annual production capacity is 1.3 million tonnes of eucalyptus pulp, which is shipped to customers mainly in Europe and Asia.

Since the launch of the mill, the product characteristics of UPM's eucalyptus pulp – UPM Euca – have been developed in close cooperation with customers. The mill's own eucalyptus laboratory analyses samples

frequently and gives instant feedback on how fibres behave in the production process.

UPM Euca is a very adaptable, general-purpose hardwood pulp that is easy to refine and suitable for a variety of paper grades. Its consistent quality is especially valued by tissue customers – for them UPM Euca pulp gives softness, smoothness, cleanliness and good brightness.

"Many of our tissue customers have been growing successfully while using UPM pulps. By us using a well-controlled mix of eucalyptus *dunnii* and *grandis*, UPM Euca has become an excellent choice for most of their tissue products," says Mats Backman, Director, Technical Customer Service and R&D.

"The new state-of-the-art pulp mill with the capacity to produce 2.1 million tonnes of UPM Euca pulp will enable us to supply more fibres that our customers really can trust, and what's more, to grow with both our current and new customers.

"Through this investment we can not only provide reliable deliveries and trouble-free operation but also want to work together in finding solutions for the market needs of today and tomorrow," he concludes.

*This article was written for TWM by Sari Hörkkö, director, stakeholder relations, UPM Pulp.*



# A PILOT MACHINE PARTNERSHIP FINE TUNES THE FURNISH MIX TO OPTIMISE QUALITY AND COSTS

As the quest for cost efficiency without compromise on performance continues, how far can tissue producers be engaging their suppliers to help them find the right balance? By Södra Cell's technical product manager Peter Carlsson.



By Peter Carlsson  
Technical product manager, Södra

Over the past year, Södra has started to be involved supplying softwood pulp to Andritz's pilot machine and its projects in Graz, Austria. The projects can involve both Andritz and Södra with a customer or a direct partnership between Södra and a customer.

We know that few customers are in a position to invest in a new tissue machine if they want to improve their existing production process, and instead they must tweak what they have. But it's often the case that those thinking of buying a new line get priority on pilot machines from the equipment suppliers, so others may not. This time-share arrangement allows us to invite customers who are not necessarily investing in a new line to see how they could optimise production costs by varying their softwood/hardwood recipes and altering their refining processes accordingly.

Often the pilot machine will run for a number of months in a certain mode, using TAD for example, before reverting to regular dry-crepe drying, so the customer cannot always choose. This new pilot machine from Andritz, the PrimeLineTEX machine, started up in 2018. It offers the chance to explore the possibilities of a new technology which aims for a textured tissue of a quality superior to dry crepe and very close to structured TAD tissue, while at the same time achieving significant cost savings. (Valmet offers a similar technology in Sweden).

We're keen to see how our customers

could benefit by increasing the softwood in their furnish while using this new technology. By working with customers and the latest technology offered by this pilot machine, we can explore the relationship between various softwood/hardwood recipes and their relationship to refining and energy savings.

By adding more softwood, the stock will require less specific energy to achieve the same tensile strength, while resistance towards cracks and other disturbances in the sheet will improve, resulting in a higher efficiency in the tissue production process and converting. In addition, bulk and thickness will increase when a larger amount of softwood is added. And with less specific refining energy, both softness in a toilet paper and absorption in a wipe are improved.

We began trials in May with a key customer who is looking to achieve improved runnability and absorbency while lowering production costs possibly by increasing the softwood pulp in their mix. By adding more softwood to the furnish, we anticipate less refining while retaining strength and bulk, but resulting in a significant cost saving on energy (due to the lower refining).

Customers who supply private-label brands are sometimes restricted if they are tied to certain specifications, but if the customer owns the brand and has more flexibility, as long as there is no compromise on performance they can

explore various furnish recipes with us. The new pilot machine enabled us to conduct trials with the customer to see how far we could take savings on fibre, using a higher percentage of softwood in the furnish. Even when the softwood-hardwood price differential was much wider than it is today, studies show that the positive impact of increasing the softwood in the furnish is much greater than the price of the softwood pulp. The customer may be using more softwood but will be using fewer resources and this will continue to be an important driver for this business.

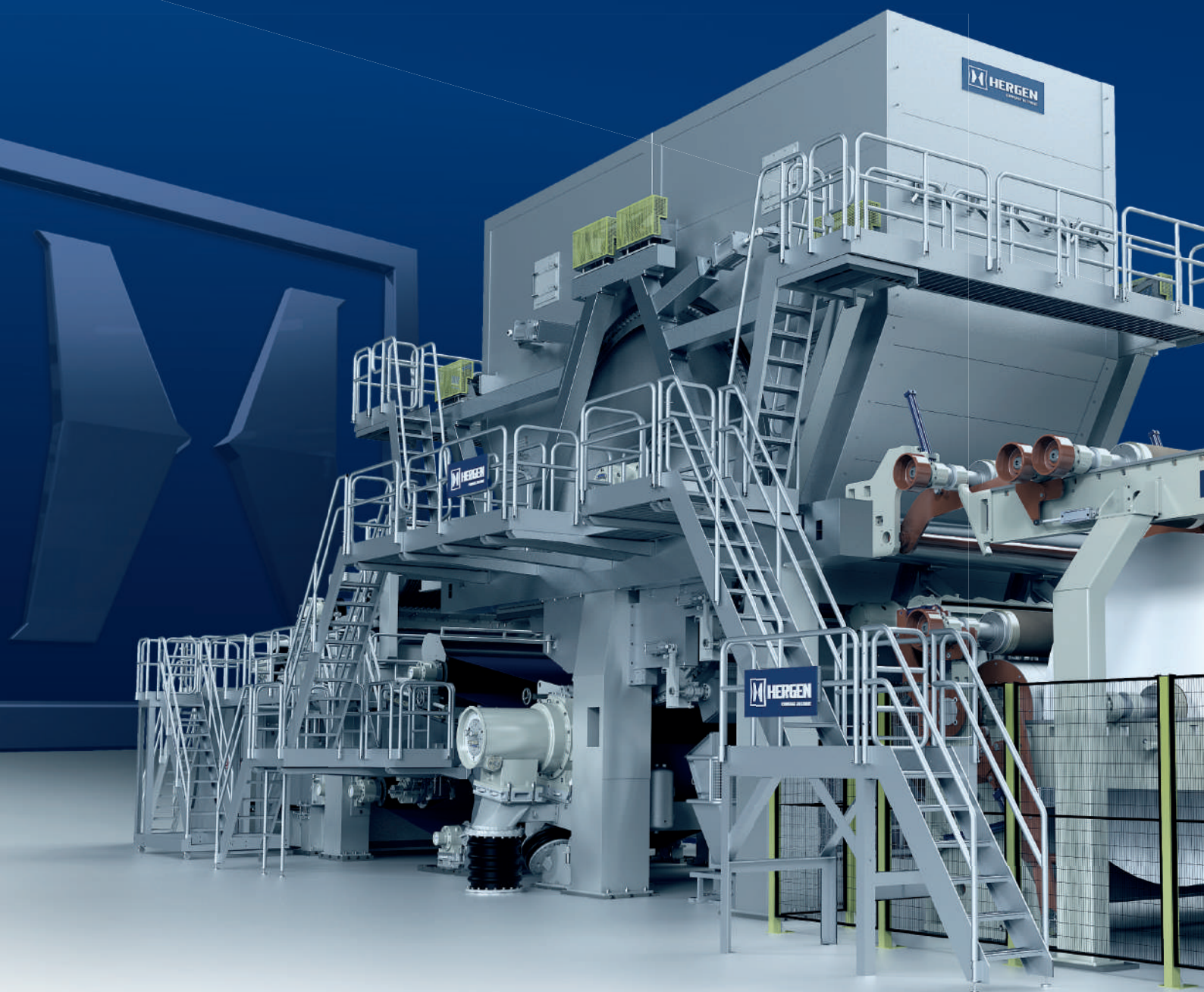
The results of the trials are still being evaluated, both by the customer and in Södra Innovation's own labs. To ensure reliability, Södra has invested in EMTEC TSA softness measuring equipment which mirrors that of the customer, ensuring samples will be consistent, whether at the tissue mill or in Södra's labs.

Another initiative has been the introduction of FibreSafe paper straps which replace the traditional wires used to secure bales. So far, Södra has introduced a limited number to customers in Sweden, and the feedback has been positive so far – FibreSafe straps eliminate the need to dewire the bales before they enter the pulper as they are simply fed into the pulper.

*This article was written for TWM by Södra Cell's technical product manager Peter Carlsson.*



**Pilot partnership:** Time-share arrangement allows customers to optimise production costs by varying softwood/hardwood recipes



# HIGH PERFORMANCE TISSUE MACHINES

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# E-COMMERCE AND PRIVATE LABELS — THE CHANGING LANDSCAPE IN THE TISSUE SECTOR

By Poyry Management Consulting's Sanna Sosa, principal, and Sivashankari Bharathi, intern.



**Sanna Sosa**  
Principal  
Poyry Management Consulting

**OVERALL PRIVATE LABEL DOLLAR SALES GREW 4.4% IN 2018, WHICH IS NEARLY SIX TIMES THE GROWTH OF NATIONAL BRAND SALES. ACCORDING TO THE US CENSUS BUREAU, MILLENNIALS, REPRESENTING MORE THAN ONE-QUARTER OF THE NATION'S POPULATION, HAVE BECOME THE LARGEST CONSUMER COHORT IN THE US AND ARE ALSO A KEY FORCE BEHIND PRIVATE LABEL PRODUCTS' GROWTH.**

Online shopping has experienced rapid growth over the past few years. According to the US Census Bureau, for the fiscal year of 2018, US consumers spent about \$517bn in online retail, growing 15% from 2017 e-commerce sales. And as of the first quarter of 2019, e-commerce represents 10% of total retail sales in the US.

In addition to online shopping, another retail market segment experiencing rapid growth is private label products. Overall private label dollar sales grew 4.4% in 2018, which is nearly six times the growth of national brand sales.

According to the bureau, Millennials, representing more than one-quarter of the nation's population, have become the largest consumer cohort in the US and are also a key force behind private label products' growth.

Millennials are becoming more indifferent about brand names and are treating private labels "as just another brand" and not a cheap substitute for the real thing.

For instance, according to a report by Cadent Consulting Group, a typical shopping cart of an average consumer is filled with 25% private label products, but Millennials' baskets have about 32% of private label products.

Consumers are also moving towards private labels for high-quality products. About 20% of private label sales growth is driven by products that are branded premium, trendy or organic.

In addition, over 40% of consumers would like to see more "better-for-you" or more unique attributes in private label products offered on retailer shelves, or online scroll menus.

Among the various private label products, private label tissue products have seen an increase in demand as well. Private label tissue products currently represent an estimated 30% of retail tissue demand in North America, and the share is growing. Private label tissue products have caught up in quality to the leading brands and are becoming a more popular choice among US consumers, especially in terms of everyday-

needs tissue products like toilet paper and paper towels. And just like how private label tissue products are growing within retail stores, consumers are opting for private label tissue products on e-commerce websites as well.

## Private label products on the rise on Amazon's best sellers list

The online juggernaut Amazon makes up almost half (47%) of total US retail e-commerce sales. But, in terms of private labels, Amazon's private label products currently contribute to less than 1% of their sales. However, the Home & Kitchen and Health & Household categories, which are the home for tissue and hygiene products, make up 11% and 8% respectively of Amazon's total private label sales.

Amazon's most famous private label tissue brand, Presto!, started around 2016 and added tissue products in 2017. Presto!'s new paper products quickly morphed into a major driver of sales and growth with an average weekly sale of \$350,000, according to Edge.

Presto! towels' market share grew 80 times on Amazon.com in 2018 compared to its negligible share of less than one-tenth of a percent in 2017.

When Amazon acquired Whole Foods in 2017, they also acquired Whole Foods' 365 Everyday Value private label line. 365 Everyday Value tissue products have a strong environmentally-friendly market positioning. Since 2007, all 365 Everyday Value tissue products have been 100% recycled content.

However, the national brands still firmly lead Amazon's top sellers' list. In 2018, P&G's Bounty was reported to be the top seller towel brand with 47% share of sales, followed by Kimberly-Clark's Viva with 12%, and Georgia-Pacific's Sparkle with 10% and Brawny with 8%.

But, Amazon's own Presto! was a close fifth on the top sellers' list with a 6% share of towel sales, followed by Everyday Value as the sixth biggest seller.

In addition to consumer-oriented tissue products, Amazon also offers its own

Amazon Basic's private label products targeted for the AfH market. For example, Amazon Basics offers professional economy jumbo roll toilet tissue for businesses or commercial use.

### Retailers are stocking online marketplaces with private label tissue products

Walmart is the third largest e-commerce retailer in the US, after eBay, with a 5% share of total online sales. Walmart reported its e-commerce sales growth at 37% for Q1 of 2019 and its e-commerce sales are projected to continue to grow at 33%. The bricks-and-mortar retailer has two major private label brands offering tissue products: Great Value and White Cloud. Great Value offers toilet paper, paper towels, facial tissues, and everyday napkins.

Aligning with the environmentally-friendly product trend, and/or availability of low-cost recycled fibre in the post-Chinese recovered fibre import ban world, Walmart launched its first 100% recycled content product bath tissue under the Great Value label in 2018.

White Cloud, which is primarily manufactured by Kruger, offers premium bath tissue and is ranked #1 at Walmart for 2-ply toilet paper.

Costco is the sixth largest e-commerce retailer (after Apple and Home Depot) with a 1.3% share of total online sales. Costco's e-commerce sales are forecasted to grow by 28% in 2019 and round up to \$7.7bn in sales. Costco is also expected to expand e-commerce operations internationally, beginning early summer in Japan and by the end of summer/early fall in Australia.

In terms of overall tissue sales, Costco makes about \$400m annually in bath tissue sales and bath tissue accounts for 12% of all sales at Costco, based on a CNBC report. Hence, Costco takes great care of its private label tissue programme by active product testing and paper mill monitoring for quality, water use, and how white the final product is, to ensure it is meeting consumers' expectations.

Target is another retailer that has a growing e-commerce operation. In Q1 2019, Target's e-commerce sales increased 42% and purchases that originate online now represent 7.1% of Target's total transactions, up from 5.2% a year ago. Target has multiple tissue private labels such as Everspring, Smarty, and Up & Up. Similar to Walmart, Target also launched an Eco-Friendly private label tissue product line in April of this year.

The private label, Everspring, introduced a 100% recycled content premium paper towels and bath tissue in Target's private label product portfolio. Target's other private labels; Up & Up and Smarty, only sell tissue products that are made from virgin pulp. Although the products do not have recycled content, the products are made from responsibly sourced forest fibres and carry SFI and PEFC certifications.

### National brands investing in e-commerce channels

National brand manufacturers are also investing in upgrading their e-commerce strategies. Major tissue manufacturer, Procter and Gamble, has reported that its overall global e-commerce sales were up 30% for the year and accounted for nearly \$4.5bn of sales –about 7% of total business.

Although, P&G has been introducing e-commerce strategies since 2016 when they released an online subscription service for Tide pods capsules.

In order to adapt to the new e-commerce channel requirements, P&G is introducing its first product launch from its fabric care's e-commerce innovation group; new tide boxes. The new tide boxes contain 30% less water and use 60% less plastic than the 150-ounce tide press tap jug.

The tide eco-boxes also take up less space because of its boxed design meaning more of the product can be shipped with fewer delivery trucks. The tide boxes also weigh less than 8 pounds but can ultimately wash the same number of loads as the 150-ounce jug.

With P&G changing its packaging to fit the e-commerce standards for its fabric care and household line, the next question is what does this mean for the tissue product line?

Will P&G develop e-commerce-only packaging for its Bounty and Charmin products like it did with its Tide eco-boxes? And if so, how will the new packaging look like?

Will it still contain the plastic wrap found in retail stores? And will P&G eventually be shipping products directly to consumers' doorsteps too?

Kimberly-Clark is also looking to develop its e-commerce sales. Kimberly-Clark makes about \$2bn in e-commerce sales and had a growth of 13% during the 2017-2018 period. In order to make e-commerce a bigger strategic priority, Kimberly-Clark has announced the K-C-strategy 2022. K-C-strategy 2022 is designed to elevate core

## WITH P&G CHANGING ITS PACKAGING TO FIT THE E-COMMERCE STANDARDS FOR ITS FABRIC CARE AND HOUSEHOLD LINE, THE NEXT QUESTION IS WHAT DOES THIS MEAN FOR THEIR TISSUE PRODUCT LINE?

businesses and drive digital marketing and e-commerce revenue further.

Since Kimberly Clark is starting to invest more in e-commerce activities, what type of initiatives will emerge for tissue products? Will there be a subscription service model for tissue and hygiene products?

Georgia-Pacific, one of the world's largest tissue manufacturers, is looking to facilitate more business-to-business e-commerce practices. GP is spending up to \$7m to open a new centre for supply chain innovation in Atlanta.

### To the Future

E-commerce is growing at a swift rate and is becoming the "go to" for shopping rather than retail stores. According to the US Census, as of the first quarter in 2019, E-commerce was 10.2% of the total retail sales, had an increase of 3.6% from the prior quarter, and an increase of 12.4% from the 2018 Q1 sales.

Consumers have also started buying more private label products, including private label tissue products. Private label tissue sales are forecasted to reach third of all retail tissue sales by 2023. Major retailers are continually investing in private label brands and the number seems to be increasing every year.

Overall, we expect the key trends to continue:

- Consumers getting more comfortable with private label tissue brand products;
- Retailers expanding the number of private label tissue brands;
- Manufacturers introducing new e-commerce strategies to increase their sales;
- Private label tissue product sales growing on e-commerce websites;
- Manufacturers making more private label tissue products with recycled content.



# MANAGING THE IMPACT OF CHINA'S IMPORT POLICIES – THE VIEW FROM INSIDE CHINA

The global recovered paper sector changed radically when China changed direction. With US recycling 'moving from turmoil to crisis,' what is the impact inside China itself? Moore & Associates' Susan Cornish summarises an analysis by Hong Kong based NPC Partners – *2019 China Recovered Paper Market & Policy Advisory Report*.

EI



**Susan Cornish**  
Associate, Moore & Associates

China has been a dominant player in the global recovered paper (RCP) business for some time, consuming as much as one-third of global demand since the early 2000s. Since China began to implement new regulations for recycled material imports in 2016-17, the US recycling industry has moved from turmoil to crisis. Often not appreciated is that China's new environmental policies have had considerable impact in China as well. Still 'to be determined' is the impact on global RCP markets.

**IMPACTS ON RECYCLED MATERIALS PRICING AND MARKETS HAVE BEEN SUBSTANTIAL FOR MANY COUNTRIES, PARTICULARLY THE US DUE TO THE SHEER VOLUME OF EXPORTS THAT WERE, PRIOR TO 2016, GOING TO CHINA.**

## Impacts of China's trade policies - on China

Impacts on recycled materials pricing and markets have been substantial for many countries, particularly the US due to the sheer volume of exports that were, prior to 2016, going to China. However, impacts on the Chinese paper industry and RCP markets within China have also been substantial. Some of the key trends are as follows:

- Dual pricing has emerged for all RCP grades, the price in China vs. the price outside of China, with the price inside China being substantially higher. For Old Corrugated Containers (OCC), for example, the price outside China has dropped by half while the price internal to China has been as much as \$260 per ton higher than elsewhere.
- Chinese companies are experiencing much greater volatility in pulp and paperboard pricing, in addition to significantly higher prices.
- RCP imports to China declined by 17 million tonnes between 2017 and 2018, a decrease of 34%, and the share of imported RCP used in China's paper industry declined to 16% (from 24%) over the same period.
- Imported recycled pulp has emerged as a new category, reaching about 300,000 tonnes delivered in China in 2018.

In part as a result of the above trends, total paper and board imports into China grew by 1.5 million tonnes in 2018, a 34% increase over 2017. The US remains the largest importer of RCP to China, accounting for 37% of total imports in 2018, despite a substantial decline from 2017.

## Objectives of the new Chinese policies (what were they thinking?)

China's Ministry of Environmental Protection, in combination with China Customs, has been responsible

implementing the new regulations that have impacted RCP and other recycled materials so substantially. Supply side reforms within China were announced in November 2015 and the first central government environmental inspections were introduced in January 2016. The programme codenamed Blue Sky followed an earlier program called Green Fence, but with much more far-reaching changes.

## Recent Publications from the Chinese Ministry of the Environment

- "Imported Waste Management Catalog" (2017)
- "Directory of Prohibited Solid Waste"
- "Provisions of the 'Administration of Environmental Protection' of Restricted Imports of Solid Waste as Raw Materials"
- "Provisions of the 'Administration of Environmental Protection' of Restricted Imports of Imported Waste Paper"
- Updated "Environmental Protection Control Standard for Imported Solid Wastes as Raw Materials – Waste and Scrap Paper or Paperboard" (2017).

The main objectives of China's policy reforms have been to tackle overcapacity in the paper industry and reduce environmental pollution within China. Prohibiting the entry of foreign 'waste' into China has been accompanied by reform of the structures and processes for solid waste importation. The goal is to greatly reduce the types and quantities of imports and gradually replace imports with domestic substitutes by the end of 2019.

Major changes based on the new regulations include:

- A ban on imports of Mixed Paper;
- Much reduced tolerance for prohibitives in all RCP grades;
- Exporters must now have a minimum of 50,000 tonnes of paper production

# Roll out the possibilities for your business.



In the extremely capital-intensive tissue sector, both new and ongoing disruptors are changing the status quo. Skyrocketing pulp prices, increasing consolidation, the growth of e-commerce, and the potential explosion of tissue needs in underdeveloped countries are just some of the factors impacting the decisions you and your staff make every single day.

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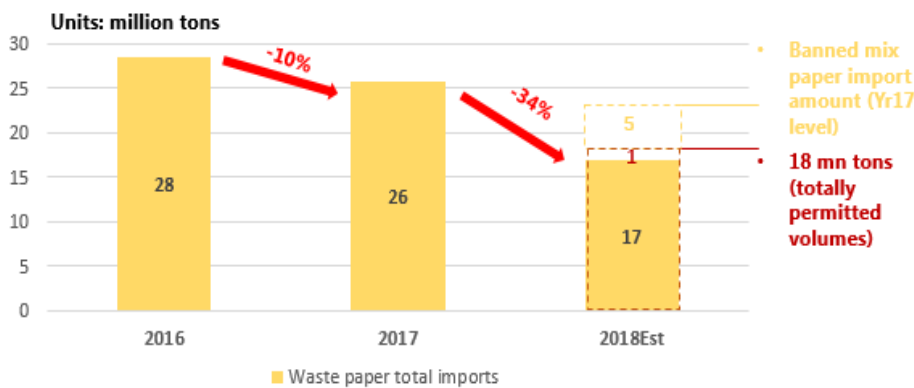
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## Imported recovered paper in China



Source: CPA, IHS, NPC Partners analysis

| 1 <sup>st</sup> year when the new regulation was implemented             |      |
|--|------|
| • Actual   | -34% |
| • If total permitted volume was processed                                | -30% |
| • If mixed paper was allowed and total permitted volume was processed... | -11% |

capacity in order to be eligible for Import Permits; and therefore

- Brokers are no longer eligible to export to China.

China continues to develop new policy frameworks to tackle pollution and improve environmental protection, and is restructuring its ministries in anticipation of future impacts on the recycling and paper industries. In June 2018, China's State Council announced a new goal of zero 'solid waste' imports by year 2020. Worthy of note is that the exact definition of 'solid waste' in these new regulations is not yet clear. It is too soon to say the extent to which any grades of RCP will remain acceptable for importation.

The Chinese government has desired to phase out the lowest-quality RCP grades because of high levels of contamination and to monitor the scale of imports much more closely. In the past, paper companies obtained annual quota volumes for imports in the first few months of each the year. With the new regulation, paper companies must apply for quotas on a quarterly basis which increase the time required for the process for both companies and government import managers. The reduced number of RCP Import Permits that has resulted has effectively limited the volume of imports.

In October 2018, China's Ministry of Ecology and Environment announced a new organisational structure that includes a new Department of Solid Waste & Chemicals. The Inspection and Quarantine Unit that usually oversees import inspections will now be part of China Customs. The new government units and consolidations will take some time to put in place so further change will not be immediate. For example, the leader and team members for a new group focusing on 'waste identification',

or distinguishing waste from renewable resources, has not yet been assigned. Companies and associations are continuing to communicate with the Government at all levels, especially the new departments and leaders who are in place, in order to stay informed of future policy changes in a timely way.

## New opportunities in RCP markets

These ongoing changes to policy in China have been monitored closely around the globe, in RCP sectors as well as other recycled materials. Yet, there is limited understanding of Chinese government policy motivations and expectations for the future vary considerably, contributing to volatility in RCP pricing, trade, and investment flows for all involved. In the medium – term, the following trends are evident:

- The Chinese government has more work to do to define the nature of 'waste paper' that should not be imported vs. what is recyclable 'green' fibre and can be imported;
- Chinese investment overseas is likely to expand in search of additional sources of fibre;
- As Mixed Paper is phased out, it is expected that use of virgin fibre will increase in China.

Given the new landscape, what are productive strategies for RCP companies outside of China? It is still possible that the Chinese government may redefine RCP standards at a later point in time so that some of what is now considered 'waste paper' could come to be considered a recyclable resource and acceptable for importation. However, until then:

- Imported 'waste' has been identified as part of China's pollution problems.

Understanding the perspective of Chinese policymakers, both at the top levels and at the implementation level, will be critical to being prepared for future changes and planning for future impacts.

- While previous RCP markets have changed, new opportunities are opening up. As the domestic recycling system is being upgraded in China, there is great opportunity for exporters to provide recycling equipment, software, and other related business functions to China.
- Alternative types of fibre imports are beginning to emerge such as recycled pulp, whether RCP or virgin fibre. As Bill Moore, president of Moore & Associates said: "Many companies in North America and Europe believe that China's RCP import restrictions are the 'end game' and have written off China as a market in general. The implications of RCF pulp exports – along with ongoing growth in the containerboard sector -- remain an open question."
- Growing foreign investment from Chinese paper mills is beginning to change global RCP trade flows.
- While RCP exports to China may be down, growth in China's imports of non-RCP paper and board has been significant.

Finally, China will need additional fibre beyond what it can supply domestically. NPC Partners' new report provides multiple quantitative scenarios for OCC, ONP, Mixed Paper, containerboard, and recycled pulp. These will give exporters extensive data and insights from which to assess RCP demand and align with changing fibre market needs in China.



# EVENTS CALENDAR

|                              |                         |                     |  |
|------------------------------|-------------------------|---------------------|--|
| <b>24-27 SEPTEMBER 2019</b>  | Labelexpo Europe        | Brussels, Belgium   | <a href="http://www.labelexpo-europe.com/">www.labelexpo-europe.com/</a>               |
| <b>1-4 OCTOBER 2019</b>      | TAPPI TissueCon         | Orlando, FL, USA    | <a href="http://www.tissuecon.org">www.tissuecon.org</a>                               |
| <b>9-11 OCTOBER 2019</b>     | MIAC                    | Lucca, Italy        | <a href="http://www.miac.info">www.miac.info</a>                                       |
| <b>10-12 OCTOBER 2019</b>    | China Int. Paper Tech.  | Shanghai, China     | <a href="http://www.chinapaperexhibition.com/en/">www.chinapaperexhibition.com/en/</a> |
| <b>16-17 OCTOBER 2019</b>    | Pulp and Paper Asia     | Jakarta, Indonesia  | <a href="http://www.pulppaperasia.com">www.pulppaperasia.com</a>                       |
| <b>22-24 OCTOBER 2019</b>    | Tissue World São Paulo  | São Paulo, Brazil   | <a href="http://www.tissueworld.com/saopaulo">www.tissueworld.com/saopaulo</a>         |
| <b>22-24 OCTOBER 2019</b>    | ABTCP Congress          | São Paulo, Brazil   | <a href="http://www.abtcp2019.org.br/">www.abtcp2019.org.br/</a>                       |
| <b>11-15 NOVEMBER 2019</b>   | London Pulp Week        | London, UK          | <a href="http://www.bwpa.org.uk">www.bwpa.org.uk</a>                                   |
| <b>19-21 NOVEMBER 2019</b>   | ISSA North America      | Las Vegas, NV, USA  | <a href="https://show.issa.com/">https://show.issa.com/</a>                            |
| <b>3-6 DECEMBER 2019</b>     | Paperex 2019            | New Delhi, India    | <a href="http://www.india.paperex-expo.com/Home">www.india.paperex-expo.com/Home</a>   |
| <b>3-6 DECEMBER 2019</b>     | Tissueex 2019           | New Delhi, India    | <a href="http://www.india.paperex-expo.com/Home">www.india.paperex-expo.com/Home</a>   |
| <b>3-6 DECEMBER 2019</b>     | Labelexpo Asia          | Shanghai, China     | <a href="http://www.labelexpo-asia.com/">www.labelexpo-asia.com/</a>                   |
| <b>13-15 JANUARY 2020</b>    | PaperOne Show           | Dubai, UAE          | <a href="http://www.paperoneshow.net/">www.paperoneshow.net/</a>                       |
| <b>3-6 FEBRUARY 2020</b>     | Paperweek Canada        | Montreal, Canada    | <a href="http://www.paptac.ca">www.paptac.ca</a>                                       |
| <b>11-13 MARCH 2020</b>      | Tissue World Miami      | Miami, FL, USA      | <a href="http://www.tissueworld.com/miami/">www.tissueworld.com/miami/</a>             |
| <b>31 MARCH-3 APRIL 2020</b> | INDEX                   | Geneva              | <a href="http://www.edana.org">www.edana.org</a>                                       |
| <b>3-5 JUNE 2020</b>         | Asian P&T World Bangkok | Bangkok, Thailand   | <a href="http://www.tissueworld.com/bangkok/">www.tissueworld.com/bangkok/</a>         |
| <b>16-26 JUNE 2020</b>       | DRUPA                   | Düsseldorf, Germany | <a href="http://www.drupa.de">www.drupa.de</a>   |



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- ☐ Consumer (At Home) Finished  
☐ Away-from-Home (AFH) Finished products  
☐ Other Tissue Grades, please specify: \_\_\_\_\_

**B. JUMBO ROLL SUPPLIER**

- ☐ Jumbo Roll Maker, for sale to converters

**C. TISSUE CONVERTER** Primary business is making paper and producing:

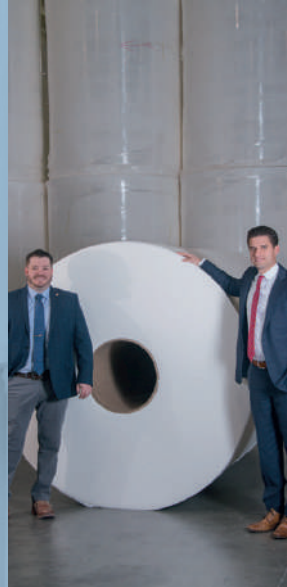
- ☐ Consumer Finished products  
☐ Away from Home (AFH) Finished products  
☐ Other Tissue Grades, please specify: \_\_\_\_\_

**D. RETAILING AND DISTRIBUTION**

- ☐ Retailer ☐ Broker ☐ Distributor

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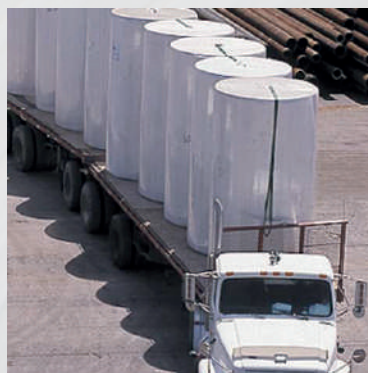
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