

The independent news provider for the global tissue business

# TWM

TISSUE WORLD MAGAZINE

## SMART and getting SMARTER

Packaging technology at  
the Human Machine Interface.

### PLUS:

#### NIGERIA

A potential market of 190m people  
Country Report

#### MarketIssues

'Shrinkflation' – good or bad for tissue?

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Global experts report on their progress.

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## TISSUE WORLD MAGAZINE

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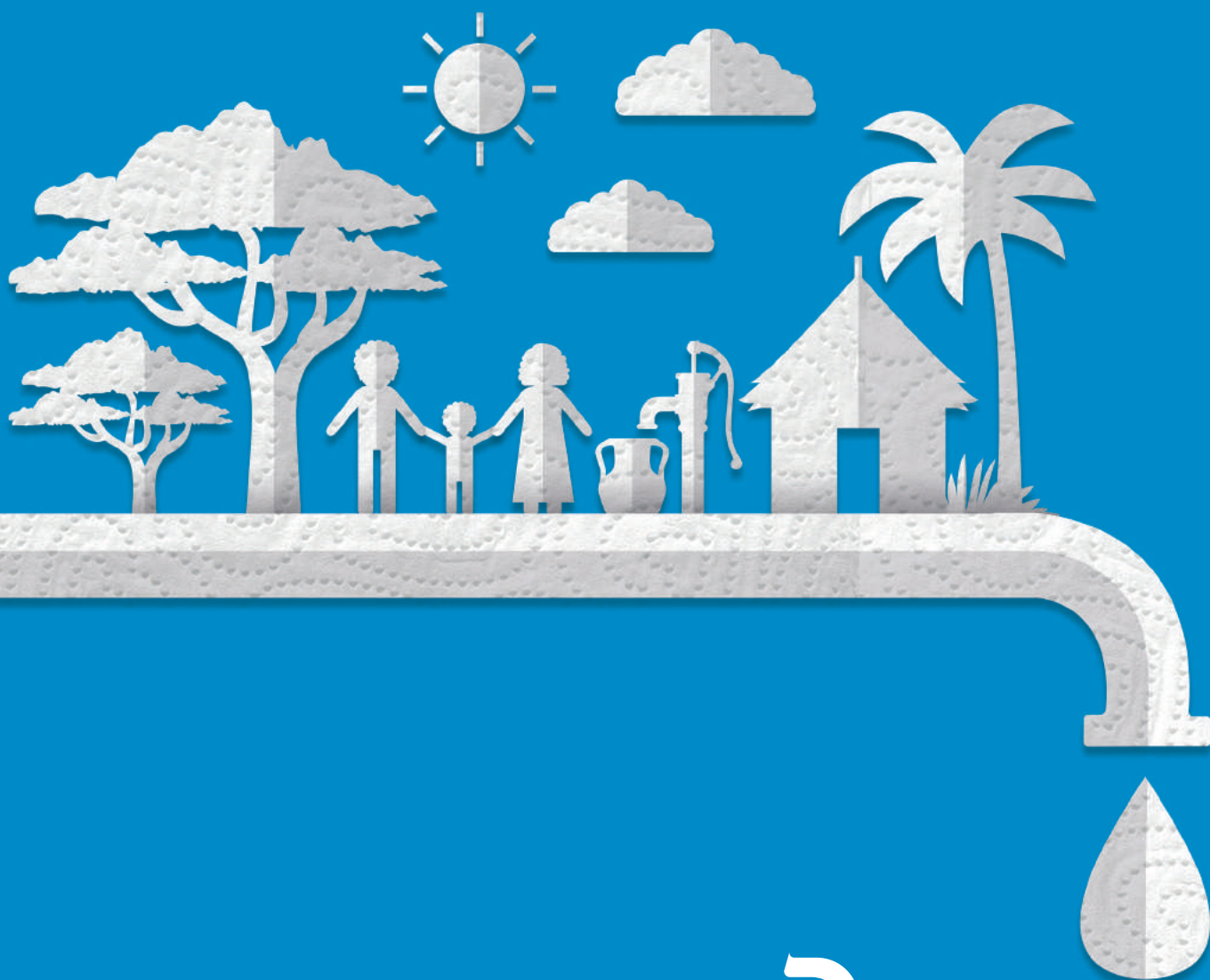
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Cover: Smart technology at the Human Machine Interface of packaging  
By PURPLEPRINT Creative.

# We're growing in sustainability, what about you?



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# Getting the best out of our ever more sophisticated technology

**H**MI, the Human Machine Interface, might stand as a symbol of TWM's Technical Theme on packaging, wrapping and logistics in this edition... as for the tissue industry across the board. Four top companies report on the cutting-edge direction of their research, but I have to say in one case, that of Optima Packaging, thank goodness for the acronym.

It is PEBEma, the altogether more manageable short form for what I'm sure is a concise and accurate description of the work in progress... Phasenübergreifende Entwicklung von Benutzerschnittstellen im Maschinen – und Anlagenbau.

The reports begin to answer the question – how best to apply brilliant technology, in that particular case of smartphones and tablets, to big and noisy tissue machines? It may not always be ideal for every instance in the tissue industry. Will it be rugged enough? Other devices promise even greater potential. So we hear about "cross-phase developments" and the intriguing specific symbolic language... it's called Scribbles.

Edson Packaging details its leading-edge diagnostics system IO-Link, a point-to-point communication protocol for sensors and actuators that can enhance the flexibility, capabilities and productivity of packaging machines.

PCMC details its Meridian laser cleaning technology. Reduce labour and materials by harnessing the power of laser energy to safely and effectively maintain pristine tooling inventory. Dramatic advances for printers and converters.

This is tissue technology at the HMI. It is already sophisticated, and as TWM's reports make clear, the drive to improve the bottom line is never ending.

## 190m people. So why are they not buying more tissue?

TWM's tantalising look at Nigeria is a classic case of 'if only' for tissue companies. Population 190m. Oil rich. Good primary infrastructure springing from that oil wealth. Africa's economic powerhouse. Commercially minded. Did I mention the population of 190m?

And yet. Our Country Report highlights, grudgingly, a certain 'stubborn resistance' to buying T&T, but also features two dynamic companies investing heavily to be there when that changes.

The country is slowly recovering from a 2016 recession – the first in two decades – and retail tissue sales have retained their upward trajectory, recording an increase in volume of 1% in 2016. Sales are expected to see healthy growth over the next five years, at a 5% CAGR through 2021, to add 14,000 tonnes in incremental sales. However, culturally not all Nigerians are tissue users, and there is a traditional multi-purpose use of toilet paper... 95% of retail volume sales, so many of the other practicalities which tissue has to offer and not being bought.

However, positive population trends and habit formation will carry forward what momentum there is, targeted on more affordable products to meet the demand of the vast low-income consumer base.

**F**

**Helen Morris**



*Senior editor,  
Tissue World magazine*

At Banrut Rolls, chief operating officer Bola Ataiyero-Adefila is certainly not short of ambition: "We are aiming to be the number one player in Nigeria as well as a formidable force in West Africa," she says as she searches for partners for an export drive into West Africa for a whole range of tissue products she aims to sell. Top of her wish list? Stable political and economic systems, and oil prices maintained and increasing on international markets. Nigeria's economy is hugely dependent on oil to earn foreign exchange.

Dynamic Turkish company Hayat Kimya sees huge opportunity. An aggressive expander, it has 14 production sites around the world, some in North Africa, and its launch of a \$100m diaper and tissue plant in Agbara is its first in sub-Saharan Africa. The vice president of the Federal Republic of Nigeria, Yemi Osinbajo, attended to cut the tape.

A central belief in Hayat's strategy is that increasing sanitary education and income levels will help convert more consumers to tissue products. Watch this space.

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# Shrinkflation – reducing product size becomes an issue for tissue

**Toxic combination of cost inflation, a stagnant economy, the fluctuating pound ... and Brexit has forced the UK tissue sector, like many other producers, to look for savings elsewhere. Report by freelance journalist Simon Creasey.**

**T**he UK tissue sector is enduring a turbulent period thanks to the combination of rising pulp prices and wild fluctuations in the value of the pound, which has sent shockwaves through the sector.

The situation is so severe that in early October, tissue manufacturer Accrol had to suspend trading of its shares on AIM and issued a profit warning due to rising costs.

There have also been a growing number of examples of 'shrinkflation' in the sector as tissue manufacturers have resorted to reengineering products to make them smaller while at the same time trying to retain the original price point.

So how did this situation come about and what does the future outlook for the UK tissue sector look like?

Over the last few years it's fair to say that the sector has fared fairly well on the back of low pulp prices and products imported from overseas that were bought by a relatively strong pound from euro or dollar regions.

And then Brexit occurred and things took a turn for the worse. Although a lot of people point to that decision as the root cause of the shifts currently affecting the sector, the market had starting to decline thanks to different factors, including the rising price of pulp.

"Tissue manufacturers believed they could ride out the storm because the industry has always been cyclical," says Paul Fecher, chairman at Northwood Paper Sales & Associated Companies.

"Month by month the reality was there for everyone to see, but no one was interested in looking because the picture was too horrible.

"Then Brexit happened, the pound collapsed and still for a few more months the mills thought things were going to get back to normal, but the pulp price carried on rising and the pound kept on falling."

Fecher says the squeeze was really put on the sector in the first two quarters of this year, with the fallout from all of this inflationary pressure slowly revealing itself.

"What we've seen in the last three months is a tightening of supply and closing of machinery in the UK," he explains.

"For everybody – whether they are an international, independent or a reasonable sized operation like us, there is cost inflation at a level that is very painful for everyone unless you have taken steps to mitigate the impact."

While rising pulp prices are problematic enough in their own right, the added complexity caused by the fluctuating value of the pound has created the biggest challenge for the sector, according to Khalid Saifullah, managing director at tissue manufacturer Star Tissue.

"I know some people in the trade who hedged at a bad rate as they thought it was going to go down even further," says Saifullah. "You also had some people who missed the boat and some panic bought. This then stuck because



Simon Creasey



Freelance journalist

for the next three months they had to buy paper at silly prices because they had bought at €1.07 and a week later it's €1.12 and then two weeks later it's €1.18 then it goes back to €1.07.

"I know we're talking about fractions, but when you're talking about raw materials you're looking at between £50-£60 (difference per tonne) and if you're converting 100,000 tonnes a year you can imagine what impact that has on your business. It wipes everything out."

With pulp prices increasing from around \$700 to \$900 per tonne Fecher, estimates that his business has endured 20% cost inflation. It's the same scenario across the sector and Fecher says people need to adjust to this "new norm".

One way companies are adjusting is by effectively shrinking their products in the same way that brand owners in other product categories have done.

Earlier this year data from the UK's Office for National Statistics (ONS) showed that 19 sheets had been cut from rolls of Andrex since 2012.

Brand owner Kimberly-Clark declined to comment for this article, but in a statement to UK trade magazine The Grocer earlier this year confirmed it had made cuts so that it could invest in its UK factories for the production of Andrex

**As many as 2,529 products across all sectors have shrunk in size during the last five years but are being sold at the same price, or more as a result of inflation, according to the UK's Office of National Statistics.**



Classic Clean range and improve the way these products are made. According to tissue sector experts it's not the only brand that has gone down this route to date and nor will it be the last – unfortunately Accrol, Sofidel, Essity all declined to comment on this issue.

"These price increases ultimately have to be passed onto the final customer," says Fecher. "The price of cars has gone up, chocolate bars have got smaller – there is no reason why tissue or paper should be exempt from price increases."

Some tissue companies appear to have successfully passed these prices onto their retail customers judging by the latest retail sales data.

"The toilet tissue sector is on average 2% more expensive across 85 stock keeping units (SKUs) than last year following big hikes on branded lines (source: Brandview 52 w/e 25 July 2017)," says Oday Abbosh, chief executive of Better All Round, which sells the Ora brand of household towel.

### ***Some tissue companies appear to have successfully passed these prices onto their retail customers judging by the latest retail sales data.***

"The increase in shelf prices on branded toilet tissue was partly due to a decrease in promotions within major multiples, but also due to a price increase on selected lines. At the same time private label prices have been decreased by 2% on average."

But these increases couldn't have come through at a worse time, with UK inflation hitting 3% in October and uncertainty around Brexit hitting consumer confidence hard.

"Consumers are definitely concerned about the potential impact on their already tight budget," says Oday. "We expect consumers to shop around more for the most competitive prices available and some to possibly trade down."

Inevitably those businesses that have put in place plans to mitigate the side effects of inflationary pressures will ride this storm out better than others.

"We've focused on making good products and investing in machines and

***"We've got a manufacturing manager and a sales manager – I almost think we need a currency manager who just watches the screens showing currency market activity as that might give us more savings."***

Khalid Saifullah, managing director of Star Tissue

automation to make ourselves as lean as possible," says Saifullah.

"We're a bit stronger as a result and we can weather the storm a bit better, but other business who have been focused on buying as cheaply as possible I don't think that's possible anymore because the price of paper depends on what time of day and week you buy because the price of currency is constantly fluctuating."

So much so that Saifullah quips "we've got a manufacturing manager and a sales manager – I almost think we need a currency manager who just

watches the screens (showing currency market activity) as that might give us more savings".

Despite putting measures in place to make his business more competitive Saifullah concedes that it doesn't mean it's immune from political and currency market volatility, which is beyond the company's control.

That said, Star Tissue has enjoyed growth of 15% this year largely thanks to the Brexit factor, claims Saifullah.

Additionally, a potential future benefit of Brexit is that the UK would become less reliant on imports of tissue products from overseas.

"It might lead to further investment in the UK because the UK is a net importer of tissue at the moment, but there is a strong business case now to say why don't we make more of our own tissue," says Saifullah.

He even envisages a scenario where European paper mills could expand their operations in the UK as they look to capitalise on the prospect of consumers increasingly buying products manufactured domestically.

"One in seven consumers are saying they are more likely to buy British as a result of last June's referendum (source: Buying British Report 2017)," says Oday.

"Another positive in the UK grocery sector retailers are reducing their reliance on promotions to allow them to pass on more costs to the customer without raising retail prices (source: Kantar World Panel 2017)."

While price inflation shows little sign of slowing and while we know there are inevitably going to be a series of further hurdles put in front of the UK tissue sector as the full impact of Brexit becomes clearer, these issues are not insurmountable, according to Saifullah.

"You have to prepare for the challenges and maximise the opportunities and there are definitely going to be opportunities. Depending on the nature of our trading relationship with Europe we might be able to export more of our products into Europe as we might be more competitive."

Those businesses that act now are the ones that will emerge from the current turmoil in a stronger position.

***Inevitably those businesses that have put in place plans to mitigate the side effects of inflationary pressures will ride this storm out better than others.***

## EUROPE

### Essity targeted by Greenpeace campaign; reinforces commitment to FSC

Essity is the focus of a Greenpeace campaign that claims it is driving the destruction of critical parts of Europe's Great Northern Forest in Sweden, Finland and Russia.

The Greenpeace report (Wiping Away The Boreal) said the company is using pulp from mills supplied by logging companies that are clearcutting some of the region's last remaining old-growth forests to produce its tissue and toilet paper brands, including Tempo, Lotus, Cushelle, Colhogar and Edet.

Greenpeace said: "Between them, these logging companies are clearing forests that are either protected or earmarked for protection; destroying habitats of threatened species, planting a notorious invasive tree species across thousands of hectares of cleared natural forest and imperilling the livelihoods of indigenous communities."

Erika Bjureby, Greenpeace Great Northern Forest project leader, said: "While Essity is a world leader in tissue production, it is failing to show leadership in the urgent fight to save the world's boreal forests from destruction. "Greenpeace is demanding that Essity cleans up its supply chain which threatens the boreal forest."

The report documents how in Sweden, Essity buys pulp from its former sister company SCA, which Greenpeace claims is logging critical forest landscapes in the boreal that have been identified by Swedish authorities as having "particularly high ecological preservation values".

It added that SCA's planting of non-native lodgepole pine is threatening the indigenous Sámi people's way of life by decreasing access to natural grazing areas for their reindeer.

In March 2017, Greenpeace said it exposed Essity's Russian supplier, Arkhangelsk Pulp and Paper Mill (APPM), which is aiming to clearcut parts of a proposed protected area in the Dvinsky forest in Russia.

In response, Essity said: "Essity's use of wood fibre comprises both recovered fibre (collected recycled fibre) and fresh fibre.

"All fresh wood fibre in our products is to be FSC or PEFC certified, or fulfil the FSC's standard for controlled wood.

"The FSC, an independent, international certification organisation, promotes the environmentally friendly, socially responsible and economically viable management of the world's forests.

"Essity prioritises the FSC certification system and encourages all suppliers to work toward certification.

"We view this as an important tool to spread sustainable forestry practices across the globe."

The company added that in 2016, 6.5m tonnes of fresh fibre was delivered to Essity in the form of wood, pulp, packaging, mother reels and third-party supplied articles.

It said: "100% of the fibre was certified or controlled which means that our suppliers uphold and safeguard principles on biodiversity and forest conservation.

"Essity requires pulp suppliers to guarantee that they have robust systems and documented procedures in place to ensure traceability and compliance throughout the supply chain."

It added that discussions are currently ongoing in the FSC organisation to determine how Intact Forest Landscapes are to be included in the certification work.

Essity said it is engaged in dialog with Greenpeace regarding developments of responsible forestry and the integration of Intact Forest Landscapes into the FSC. Kersti Strandqvist, Essity SVP group function sustainability, said: "Essity places the highest priority on sourcing sustainable materials.

"Essity adheres to the FSC standards – the highest and most respected in the world and we require that all our suppliers do the same.

"Recently Greenpeace has implied that FSC standards are not enough. Discussions are already ongoing within FSC, involving stakeholders such as ourselves and Greenpeace, exploring areas of improvement.

"In the meantime, we will continue to

follow FSC recommendations as the current gold standard".

### Södra Cell announces price hike for NBSK

Södra Cell has increased the price of its northern bleached softwood kraft pulp in Europe to \$960/tonne.

The price hike came into effect on 1 October 2017.

Magnus Björkman, vice president marketing and sales, said: "This increase reflects the fact that global NBSK demand continues to be very strong.

"Consequently, this is also putting further pressure on European supply.

"The economic situation in Europe is sound and our market remains firm."

## UNITED ARAB EMIRATES

### Crown Paper Mill boosts capacity by 65,000tpy; targets expansion in Middle East

Crown Paper Mill (CPM) has increased its presence in the Middle East after it invested in an Advantage DCT 200HS line tissue.

Supplied by Valmet, the investment includes a Focus rewinder and an extensive automation package.

It will produce high quality tissue products for the Middle East market and start-up is planned for the second half of 2018.

It will have a width of 5.6m, a design speed of 2,000m/min and will add 65,000tpy of tissue paper to the company's current production of high-quality facial, toilet tissue and kitchen towels.

Abdullah Al Khateeb, managing director of CPM, said: "CPM believes that after the successful completion of the factory's expansion, we will anchor its position as the leading tissue jumbo roll manufacturer in the region."

Valmet's scope of delivery will comprise a complete tissue production line featuring stock preparation systems, an Advantage DCT 200HS tissue machine and Focus Rewinder line.

CPM produces jumbo tissue paper rolls. It has an annual production capacity of 35,000 tonnes of tissue for facial, toilet, kitchen, towel, napkin, C-fold and carrier grades for the UAE market and surrounding region.

***Essity buys pulp from its former sister company SCA, which Greenpeace claims is logging critical forest landscapes in the boreal that have been identified by Swedish authorities as having "particularly high ecological preservation values".***





**Above:** Grand Bay Paper and Care Products Group targets Latin American region with investment

## LATIN AMERICA

### Grand Bay Paper and Care Products Group targets Latin American region with investment

The Grand Bay Paper and Care Products Group has invested in a new tissue paper mill.

Supplied by Recard, the plant will produce toilet rolls, table napkins, facial tissue and kitchen towels.

It will be set up in Guatemala, in Central America, through the branch company Papelera Internacional (Painsa), and will constitute the basis for the expansion in the region of Central America and the Caribbean.

Start-up is scheduled for mid-October 2018 and the new machine has a drying capacity of 120t/d and a maximum speed of 2000m/min.

The machine will run on 100% virgin fibre or 100% secondary fibre. Recard will supply a turnkey service that includes three pulp preparation lines

for long fibres, short fibres and broke, approach flow system, related ancillary equipment and complete mechanical and electrical assembly.

The company made the investment in order to meet the growing demand in the different Latin American markets and pursue a regional growth plan.

General manager Mauro Michelini said: "This new order is a great reason for pride for us because it allows us to work once again with people with whom we have established a great rapport, and this is foundational in order to pursue satisfactory technical results."

Painsa belongs to the Canadian Kruger Group, while the Grand Bay Paper is a Latin-American consortium and an affiliate of the Kruger Group.

## BRAZIL

### Suzano boosts capacity with R\$540m mill start-up

Suzano Papel E Celulose has started the production and sale of jumbo rolls of sanitary paper at its mill in Mucuri, Bahia. The total estimated investment is R\$540m and the total tissue paper production capacity is 120,000tpy, with a maximum conversion capacity of 60,000tpy.

The mill is based in Imperatriz, Maranhão, and is expected to start production in the fourth quarter of 2017.

The ramp-up of tissue production will be gradual.

***"This new order is a great reason for pride for us because it allows us to work once again with people with whom we have established a great rapport, and this is foundational in order to pursue satisfactory technical results."***

General manager Mauro Michelini



## CANADA

### Kruger boosts AfH capacity with PM start-up; total investment moves to \$67m

Kruger Products has started-up PM8 at its Crabtree Plant, a \$55m investment that will increase the tissue manufacturer's AfH capacity by 30,000 metric tonnes annually.

The purchase of an additional winder pushed the cost of the total investment to \$67m.

The Crabtree mill is based in the Lanaudière region of Québec, Canada, and is part of Kruger Products' Region East Manufacturing Division.

It manufactures tissue products for consumer, In-Home, commercial and AfH and it also converts tissue paper made by the Sherbrooke and Laurier mills into finished products.

Kruger Products received a \$39.5m loan from Investissement Québec.

PM8 will boost the plants annual production by 29%.

### Cascades PRO claims 20% sales from new products by 2020

Cascades PRO has announced its commitment to new product launches and innovation after it said that 20% of its sales will come from innovation by 2020.

The move is part of its complete

*"Sustainability has long been at the core of Cascades' operations and it will continue to play a large role in R&D efforts as customers put even greater emphasis on sustainable business practices, both for themselves and the companies they partner with."*

Thierry Trudel, VP of marketing, communications and innovation, Cascades Tissue Group

rebranding process, which has included the launch of new Tandem Interfold Dispensers and the opening of its converting facility in Oregon, USA.

The company has also created an innovation team that focuses on tissue and packaging solutions.

Thierry Trudel, VP of marketing, communications and innovation, Cascades Tissue Group, said: "Sustainability has long been at the core of Cascades' operations and it will continue to play a large role in R&D efforts as customers put even greater emphasis on sustainable business practices, both for themselves and the companies they partner with."

Previews on forthcoming innovations will begin in 2018.

## AMERICA

### Irving targets USA expansion with \$400m TAD investment

Irving Consumer Products has invested in a 75,000 tonne state-of-the-art tissue plant to be constructed in

Macon, Georgia.

The machine is expected to start-up in 2019 and will double the company's ThruAir Dry capacity.

President Robert K. Irving said: "Selecting Macon for our new facility provides us with an opportunity to establish a footprint in a region that has proven itself as being a strong supporter of business."

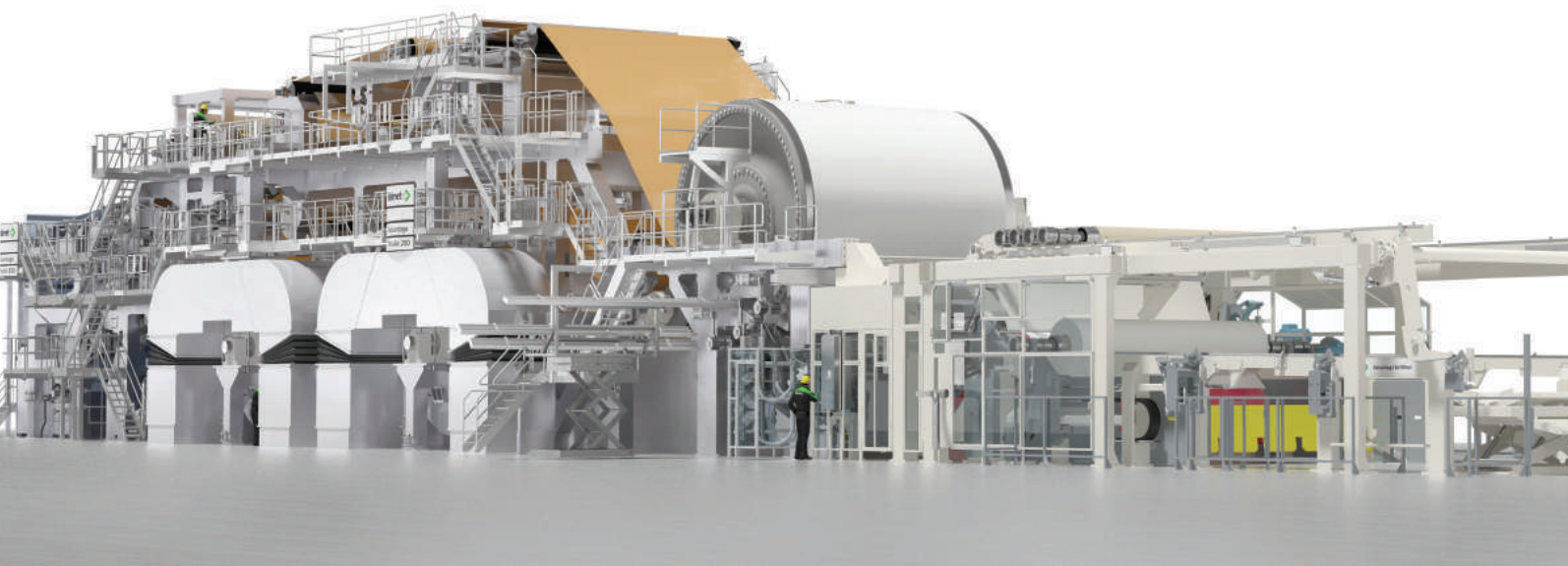
"It will allow us to reach key markets, and will help to continue to drive our growth."

Engineering and planning for the facility is well underway and construction will begin this summer.

Irving Consumer Products is a North American manufacturer of household paper and baby diaper products.

Its companies include Irving Tissue which produces premium household store brand paper products for North America's retailers as well as some brands.

Irving Personal Care manufactures baby diapers and training pants in Canada, producing premium quality private label products for North American customers.



**Irving investment:** Irving Consumer Products has invested in a 75,000 tonne state-of-the-art tissue plant to be constructed in Macon, Georgia.



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## G-P investing millions at Naheola mill

Georgia-Pacific has boosted its tissue capacity after it invested \$120m in new technology to be installed at its Naheola mill in Pennington.

The investment will bring new technology to the mill's converting lines, where tissue paper is converted into consumer rolls.

The company declined to comment further on the investment.

## K-C announces first major commitment to renewable energy; enters long-term power purchase agreements

Kimberly-Clark has substantially increased its environmental efforts after announcing its aims to power its north American mills with renewable wind energy.

As part of the agreement, it will annually purchase 1,000,000 megawatt hours (245 megawatts - MW) of electricity from two new wind power projects in

*"Adding wind-generated electricity to the energy mix will enable the company to achieve more than a 25% reduction in GHG emissions in 2018, which is four years ahead of the original 2022 target to reduce absolute greenhouse gas emissions by 20% from 2005 levels. These two renewable energy projects combined with a number of other energy initiatives across the company put Kimberly-Clark on-track to deliver significant multimillion dollar cost savings by 2022."*

Lisa Morden, global head of sustainability at K-C

agreements mark K-C's first use of utility-scale renewable energy and are a step-change in our energy and climate strategy to reduce climate change impacts, improve operating efficiency and benefit cost savings.

"Adding wind-generated electricity to the energy mix will enable the company to achieve more than a 25% reduction in GHG emissions in 2018, which is four years ahead of the original 2022 target to reduce absolute greenhouse gas emissions by 20% from 2005 levels.

"These two renewable energy projects combined with a number of other energy initiatives across the company

plants will provide steam for the company's tissue operations.

The Rock Falls Wind project will become operational by the end of 2017 and the Santa Rita facility is expected to begin commercial operation by the second quarter of 2018.

## Resolute appoints Patrice Minguez as president of Tissue Group

Resolute has appointed the former founder and former president of Cellynne Holdings, Patrice Minguez, as president of its Tissue Group.

The new role will see Minguez reporting to Richard Garneau, president and chief executive officer.

He will oversee all tissue operations as well as sales and marketing functions including the Atlas Tissue operations in Florida and the converting facilities at Calhoun, Tennessee.

Minguez is the founder and former president of Cellynne Holdings and built the company from the ground up into one of North America's biggest independent tissue converters.

He has experience in the AfH and at-home bath tissue and towel markets.

Garneau said he will play an important role in the company's ongoing transformation strategy: "Under his leadership, we believe our tissue business will be positioned for sustained growth and performance."

This appointment took effect on 1 August.

*Kimberly-Clark has entered into long-term power purchase agreements to take 120 MW or 78% of electricity to be generated by the Rock Falls Wind project being developed by EDF Renewables in northern Oklahoma and 125 MW or 42% of the electricity to be generated by the Santa Rita Wind Energy Centre being built by Invenergy in West Texas.*

Texas and Oklahoma.

The renewable energy supplied by the wind farms is equivalent to about one-third of the electricity needs of its North American manufacturing operations and will enable the company to surpass its greenhouse gas (GHG) reduction goal four years earlier than anticipated.

The company has entered into long-term power purchase agreements to take 120 MW or 78% of electricity to be generated by the Rock Falls Wind project being developed by EDF Renewables in northern Oklahoma and 125 MW or 42% of the electricity to be generated by the Santa Rita Wind Energy Centre being built by Invenergy in West Texas.

The renewable energy supplied by the two wind farms will enable K-C to reduce its greenhouse gas emissions by up to 550,000 metric tonnes annually.

Lisa Morden, global head of sustainability at K-C said: "These

put Kimberly-Clark on-track to deliver significant multimillion dollar cost savings from energy and climate projects by 2022," she added.

Six large-scale electricity cogeneration facilities with waste heat recovery, including a seventh project recently announced and under construction at the company's Mobile, Alabama manufacturing facility (due to start-up in 2019).

Four biomass thermal energy generating

*Resolute has appointed the former founder and former president of Cellynne Holdings, Patrice Minguez, as president of its Tissue Group. The new role will see Minguez reporting to Richard Garneau, president and chief executive officer. He will oversee all tissue operations as well as sales and marketing functions including the Atlas Tissue operations in Florida and the converting facilities at Calhoun, Tennessee.*





**PCMC invests:** acquisition of Graphbury Machines boosts company's flexible packaging abilities

### PCMC targets packaging sector with Graphbury Machines purchase

Paper Converting Machine Company (PCMC) has boosted its presence in the packaging sector with the acquisition of flexible packaging machinery manufacturer Graphbury Machines. PCMC president Steve Kemp said the purchase will "strengthen our ability to provide value to our existing customers, while remaining responsive to emerging market technologies". Graphbury has developed a range of products that improve flexographic printers' production and performance. According to the supplier, its Anilox Laser Washing Machine offers customers the ability to clean ceramic and chrome Anilox rolls of any line screen without causing surface wear. The laser technology works on all kinds of inks, and vaporises deposited particles inside of the cells.

### Ashland announces price hike following escalation of raw material costs

Ashland has said it will increase its prices on all resins and gelcoats in North America. The increase came into effect as of 18 September and will impact the supplier's complete portfolio of unsaturated polyester resins, epoxy vinyl ester resins and gelcoats in North America by \$0.09/lb. It said: "This increase is primarily driven by continued escalation of costs in key raw materials and freight, exacerbated by the recent disruption to the North American chemical industry by Hurricane Harvey. "Ashland continues to work diligently to ensure supply, service our customers, and provide the utmost quality and performance."

### MOLDOVA

#### Celtex eyes €3-4m expansion into eastern Europe

Italian tissue manufacturer Celtex Industry Group is targeting eastern Europe with a potential expansion into Moldova. According to Moldova's Ministry of Economy and Infrastructure, the company is planning to invest €3-4m in a site for the production of toilet paper and export-orientated products. It follows a meeting with Celtex chief executive Andrea Bernacchi and Vitalie Lurcu, deputy minister of economy and infrastructure. Celtex manufactures tissue and nonwoven cleaning and hygiene products for the AfH sector. The company has locations in Italy, France, Germany and Poland.

*Graphbury has developed a range of products that improve flexographic printers' production and performance. According to the supplier, its Anilox Laser Washing Machine offers customers the ability to clean ceramic and chrome Anilox rolls of any line screen without causing surface wear.*

## GLOBAL

### Voith launches OTR Precise system

Voith has targeted the tissue market with the launch of its OTR Precise system.

The supplier said the system accurately measures and analyses Yankee cylinders during operation, meaning early detection of problem areas, creating higher machine productivity and improving tissue quality.

A spokesman for the company said: "Deformations on the surface of a Yankee cylinder reduce the productivity of a tissue machine and impair the quality of the tissue paper.

"However, these manifestations of wear, which result primarily from continuous doctoring, are inevitable.

"With the OTR Precise Voith is offering tissue manufacturers a technology for reliably identifying these problem areas."

Voith installs the OTR Precise system during a scheduled machine shutdown

and afterwards the measurements are conducted during normal operation of the Yankee.

### Gambini targets performance and flexibility with TouchMax.Twin launch

Gambini has responded to customer demand with the launch of its TouchMax.Twin embosser.

The product is the latest member of the TouchMax Family of embossing and lamination solutions which the supplier said aims to improve softness,

strength, and bulk.

The original TouchMax was the company's first flexible embosser that could create a large variety of products without removing or replacing any steel rolls in the machine.

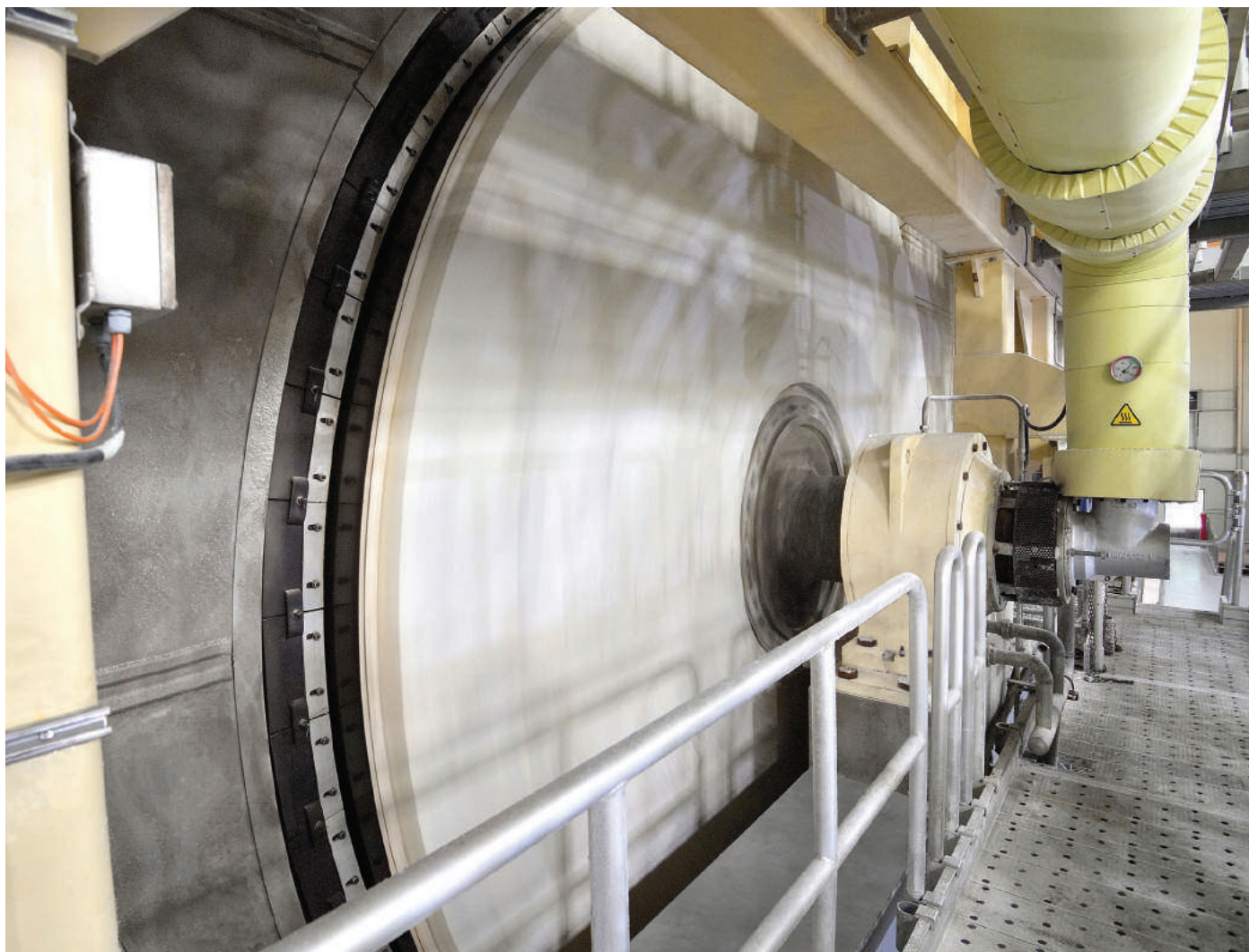
Sales and marketing director Carlo Berti said the TouchMax.Twin is the answer for customers that need to meet different embossing needs while limiting investment costs.

He said: "It can emboss tissue products in all types of configurations as requested by the market: Point-to-Point, Point-to-Flat, Synchronised and Random.

"It innovates by creating value for

*"The TouchMax.Twin allows customers to maximise production and compete in diversified markets by creating products of the widest range and typology. It innovates by creating value for the customer and in order to do this it is crucial to have 360 degrees of flexibility."*

Carlo Berti



**Precision analysis:** Voith's OTR Precise in operation on a Yankee cylinder detecting problems early to boost productivity and quality



the customer and in order to do this it is crucial to have 360 degrees of flexibility."

He added that the product is more compact and easy to maintain while keeping the highest levels of safety for the operators.

It allows a double set-up of the machine that means it can work with steel embossing rolls of 355mm and 409mm diameters. It can also be easily retrofitted into existing lines that enable customers to expand their product range while maintaining existing ones. Berti added: "The TouchMax.Twin allows customers to maximise production and compete in diversified markets by creating products of the widest range and typology."

Gambini researches, designs, and manufactures converting machinery for the production of tissue products in the consumer and professional markets.

## GP sells chemicals business to Ecolab

Georgia-Pacific (GP) has sold its paper chemicals business to Ecolab.

The transaction is expected to be completed before the end of the year subject to customary closing conditions. The move will boost chemical supplier Ecolab's presence in the tissue and packaging industries.

The division supplies products and applications targeting strength, softness

**"We believe this sale of our paper chemical business to a global industry leader like Ecolab's Nalco Water will be in the best interest of our customers and stakeholders."**

Rick Kimble, senior communication manager, GP building products

and durability.

Rick Kimble, senior communication manager, GP building products, told TWM: "We believe this sale of our paper chemical business to a global industry leader like Ecolab's Nalco Water will be in the best interest of our customers and stakeholders."

"GP remains strongly in the chemical business as well as the rest of our portfolio: bath tissue, paper towels and napkins, tableware, paper-based packaging, office papers, cellulose, specialty fibres, nonwoven fabrics and building products."

The terms of the transaction were not disclosed.

## Kemira reports its half year results; profitability below prior-year level

Kemira has reported solid revenue growth but profitability below prior-year level in its half year results.

In its second quarter results, revenue increased 5% to €617.2m while operative EBITDA decreased 2% to

€77.1m due to higher variable costs.

For the six months from January-June, revenue increased 5% to €1,227.3m while operative EBITDA decreased 4% to €146.1m.

President and chief executive Jari Rosendal said: "In the second quarter, revenue growth continued. Organic revenue growth was 4%, which is a good achievement. Profitability was below the prior-year level due to higher variable costs."

In its Pulp & Paper division, sales volumes continued to grow. Rosendal said: "We lost revenue due to force majeure at Huntsman (now Venator) in Pori, Finland, but the underlying revenue generation is developing according to plan."

"A major contract manufacturing agreement with AkzoNobel in China ended during Q2, and the two remaining ones in Europe will end in Q3 and Q4 leading to a step-up in synergies in the second half of the year."

Industry & Water generated organic growth of 9% driven by strong sales volume.



## UK

### Accrol Group appoints new CEO

Independent tissue converter Accrol Group Holdings has appointed Gareth Jenkins as chief executive.

He took over the role from Steve Crossley with effect from 11 September 2017.

Jenkins previously worked for DS Smith, one of Europe's leading packaging companies that manufactures corrugated products for the retail, FMCG and industrial markets.

He spent the last four years as managing director of the UK & Ireland packaging division. Crossley is leaving the company and stepping down from the board with immediate effect to pursue other interests.

Peter Cheung, chairman of Accrol, said the company "continues to trade in line with market expectations in terms of revenue, with profitability being broadly in line with market expectations".

**Jenkins previously worked for DS Smith, one of Europe's leading packaging companies that manufactures corrugated products for the retail, FMCG and industrial markets. He spent the last four years as managing director of the UK & Ireland packaging division.**



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**80tpd boost to production:** The A.Celli machine set to roll at the Nanxiong Zhuji mill

## CHINA

### Guizhou Chitianhua start-up is one of the largest across the world

Guizhou Chitianhua Paper Industry has started up one of the world's largest Steel Yankees at its Chishui, Guizhou Province-based site. Supplier Andritz said the PrimeLineST tissue machine is unique in the

Asian market as it combines a high-performance Yankee with a steam-heated hood.

It has a design speed of 2,000m/min and a paper width of 5.6m and will produce high-quality facial wipes, toilet paper, and paper tissues based on bamboo furnish.

The Yankee is made entirely of steel, and with a diameter of 20 feet it is said to be amongst the largest in the world.

Andritz said it enables a high drying capacity and because it uses steam it achieves cost savings compared to systems operated with gas.

### Andritz supplied PrimeLineST Steel Yankee is unique to the Asian market

China's Guangdong Shaoneng has started-up its new tissue machine at its Nanxiong Zhuji paper mill.

The machine was supplied by A.Celli and it is 2.8m wide with a working speed of 1,600m/min.

It will boost the site's production by 80tpd.

*Guizhou Chitianhua Paper Industry has started up one of the world's largest Steel Yankees at its Chishui, Guizhou Province-based site. Supplier Andritz said the PrimeLineST tissue machine is unique in the Asian market as it combines a high-performance Yankee with a steam-heated hood.*

# Nigeria – solid GDP but significant population-to-capacity gap



Bill Burns

Senior consultant,  
Fisher International

**N**igeria, with its oil wealth and sizable population (190 million, or more than half the population of the USA - it's the most populous country in Africa) has been an economic powerhouse by many measures for quite some time.

Yet it also typifies a phenomenon among certain rapidly developing countries for a stubborn resistance to the Tissue and Towel (T&T) industry, both in per-capita consumption and production. Nigeria's tissue segment isn't yet in parity with its huge potential.

Figure 1 shows per capita tissue consumption in developed and emerging economies illustrating the enormous potential such markets represent.

Fisher has modelled this phenomenon in order to track new tissue machine installation trends. Using our model, we estimate there will be 1,040 newly-built tissue machines between now and 2025. Only 20 of those will be in Africa (Figure 2).

But statistical facts do not always illustrate well enough what is evident on the ground. Case in point, Nigeria.

**Nigeria is the seventh most populous country in the world, ranks 26th in gross domestic production, but 131st in per capita GDP based on purchasing power, and 60th in production capacity among the 80 or so countries that manufacture 30 TPD or more of T&T.**

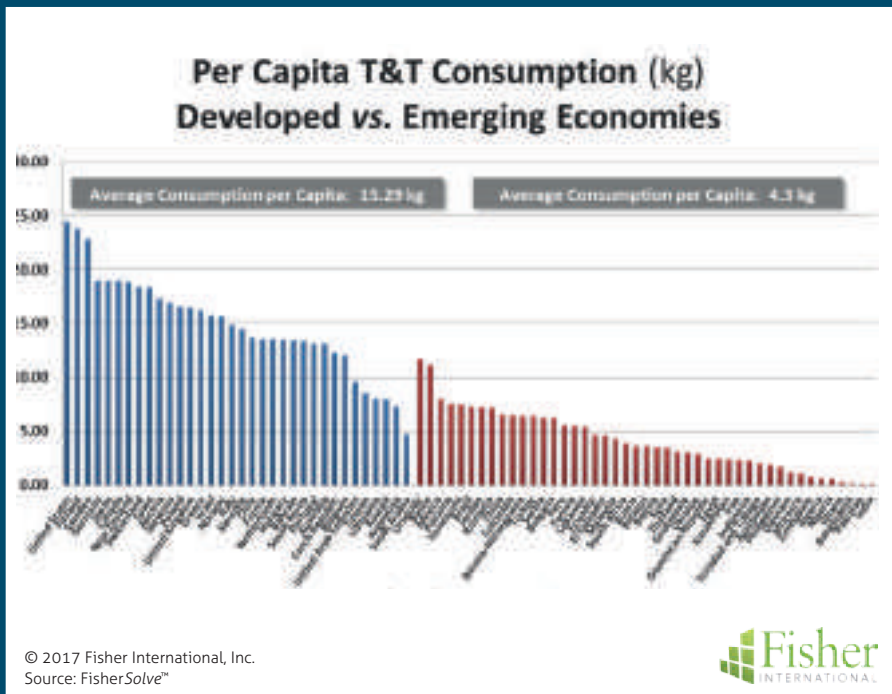


Figure 1: Per capita T&T consumption (kg) developed vs emerging economies.

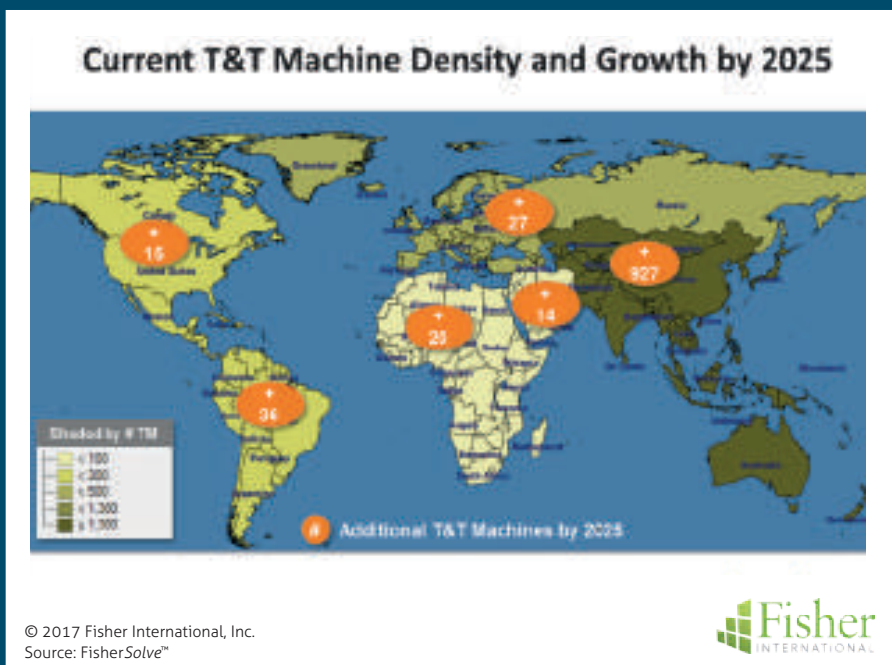


Figure 2: Current T&T machine density and growth by 2025.



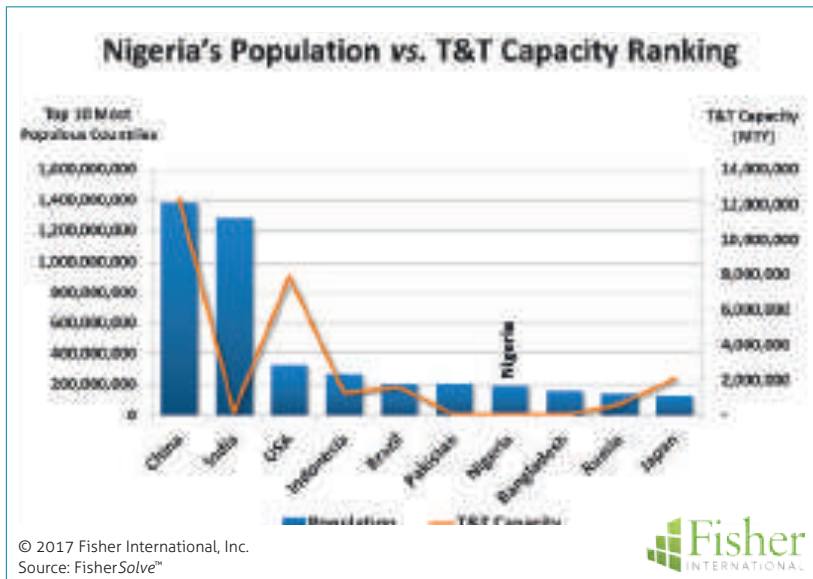


Figure 3: Nigeria's population vs T&T capacity ranking.

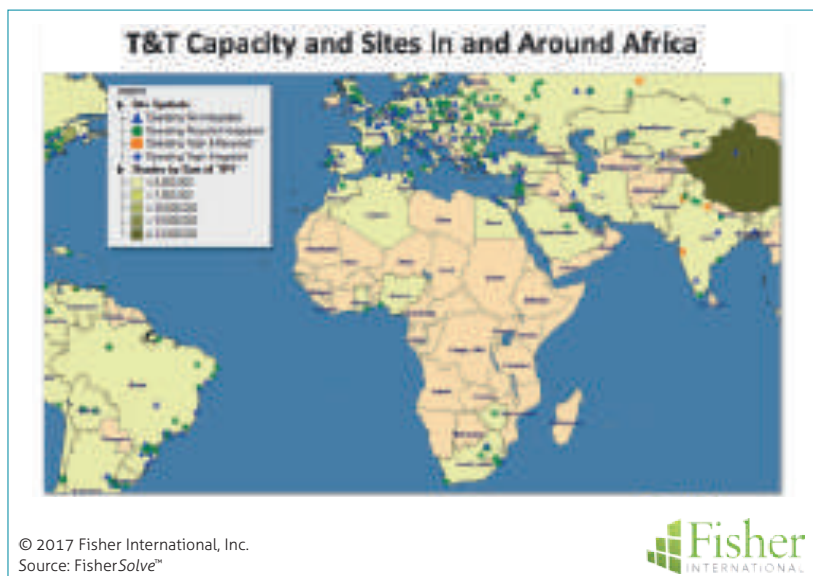


Figure 4: T&T capacity and sites in and around Africa.

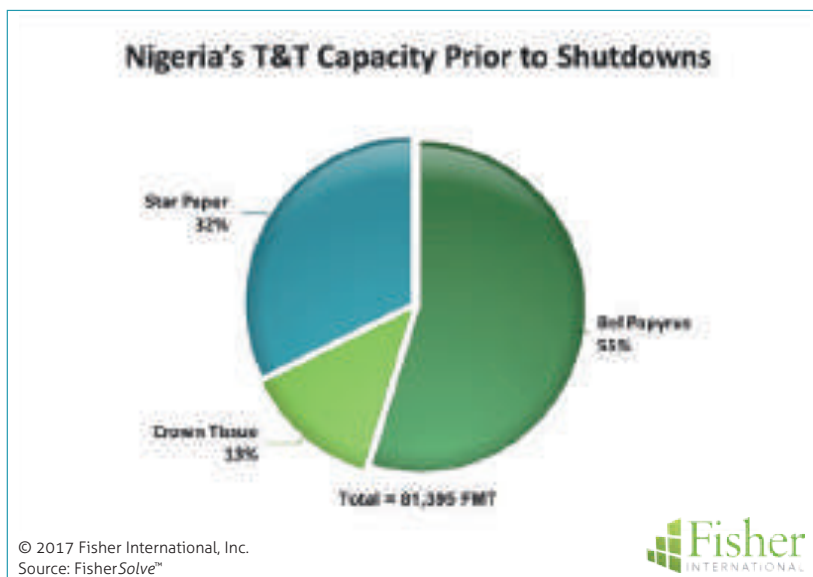


Figure 5: Nigeria's T&T capacity prior to shutdowns.

It is worth understanding the magnitude of the gap between potential and actual capacity with some basic numbers.

Nigeria is the seventh most populous country in the world, ranks 26th in gross domestic production, but 131st in per capita GDP based on purchasing power, and trails at 60th in production capacity among the eighty-or-so countries that manufacture 30 TPD or more of T&T (Figure 3).

Nigeria is not the only place in the world with a solid GDP but a significant population-to-capacity gap. Expanding such markets will clearly unlock vast opportunities and, if a case could be made for such an enterprise (sociopolitical strife and oscillating oil prices notwithstanding), Nigeria would be a prime candidate.

The country is resource-rich – not only with energy, but also with an abundance of water that is widely distributed.

Even forests are plentiful and spread across half of the country if it were to get to a state of producing virgin fibre. (Overharvesting of trees is a concern in Nigeria receiving government and environmental scrutiny, but sustainable forestry could support a robust T&T industry if the conditions were right.)

While cultural norms are certainly drivers behind the capacity gap, Nigeria's population is very young with dense clusters in urban areas along the south and southwest which speaks favourably for T&T demand. Nigeria's long coast line with shipping and transportation infrastructure, put in place to serve the oil industry, is also a noteworthy feature.

Nevertheless, Nigeria currently imports most of its paper valued at 338 million USD, according to UN Comtrade Statistics. Paradoxically for this nation rich in crude oil, the lack of available energy domestically is at the centre of its dramatic T&T capacity shortage.

The absence of a suitable electric grid means that manufacturers rely on generators and diesel fuel to run turbines, an expensive and less reliable way to produce power and no way at all to produce the steam needed to dry paper.

The problem is exacerbated by the fact that Nigeria has lost its oil refineries due to lack of maintenance and the country is now forced to purchase its refined fuels.

**The Nigerian government is expected to support a manufacturing initiative in order to create jobs, no matter the return on investment. If and when that happens, Nigeria can look forward to growing its capacity to meet its own demands and maybe even those of other West African nations.**

It's easy to see how the market is open to imports. Nigeria imports most of its paper, including tissue. South Africa, for instance, has established a highly efficient system of delivering goods (including tissue) to West African nations including Nigeria. Figure 4 illustrates the dearth of tissue capacity in Africa by contrast to surrounding regions.

A new oil refinery is slated to open in 2019. Once it does, will Nigeria once again manufacture its own tissue? If new efficient machines can deliver T&T cost-effectively, will demand grow?

The question may turn on whether or not there are investors willing to tie up their money in the long term or will imports continue to meet demand. The answer can be as much political as economic.

The Nigerian government is expected to support a manufacturing initiative in order to create jobs, no matter the return on investment. If and when that happens, Nigeria can look forward to growing its capacity to meet its own demands and maybe even those of other West African nations.

Nigeria may not have much domestic tissue capacity today but it is not for lack of trying. Until recently, Nigeria's T&T market had three mills operating five tissue machines with each mill making more than the threshold number of tons tracked by FisherSolve™. All but one of these mills have closed (Figure 5); with Bel Papyrus now operating three tissue machines at its Ikeja mill.

Nigeria's T&T capacity took a severe hit in recent years and the slack has no doubt been picked up by imports. Some new capacity came online in 2013 (a new three metre, 1,300mpm line) but older machines were also retired (Figure 6).

With the loss of two mills, Nigeria lost nearly half of its T&T production. The drop between 2016 and in 2017 is caused by the shutdown of three very small, slow machines. There is some growth

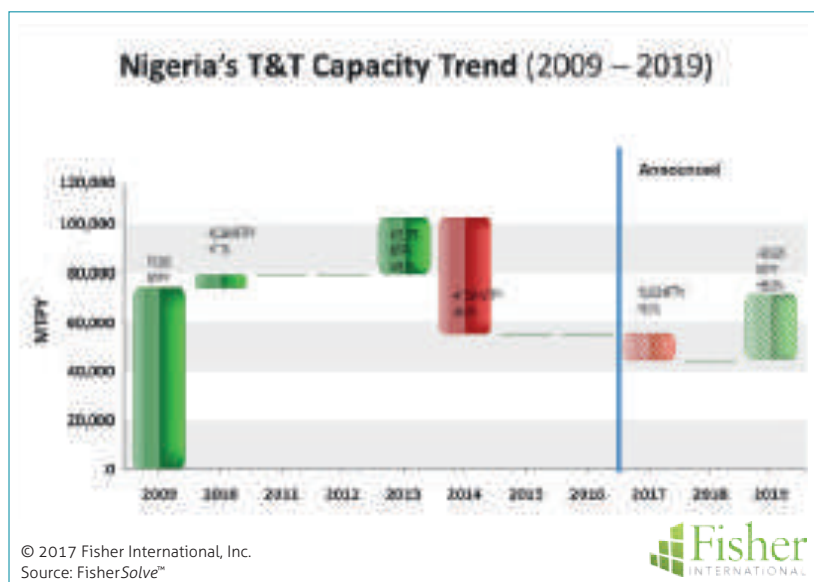


Figure 6: Nigeria's T&T capacity trend (2009-2019).

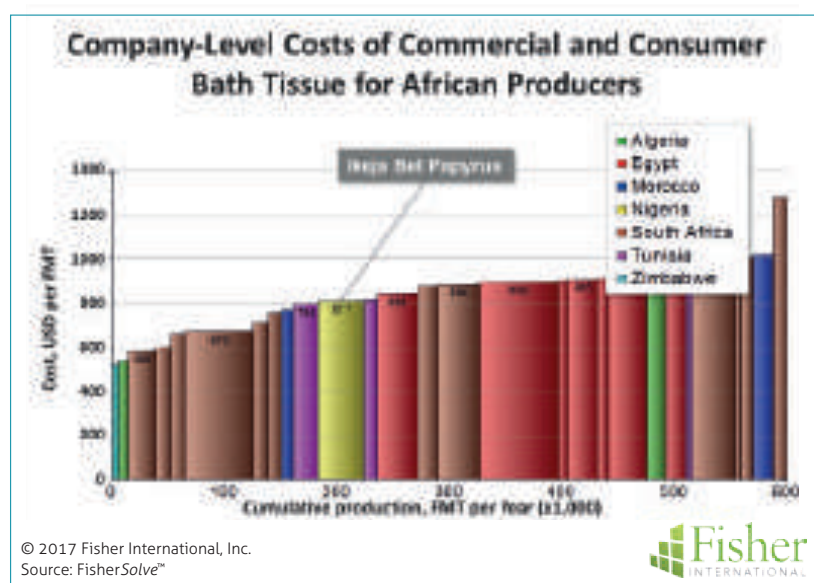


Figure 7: Company-level costs of commercial and consumer bath tissue for African producers.

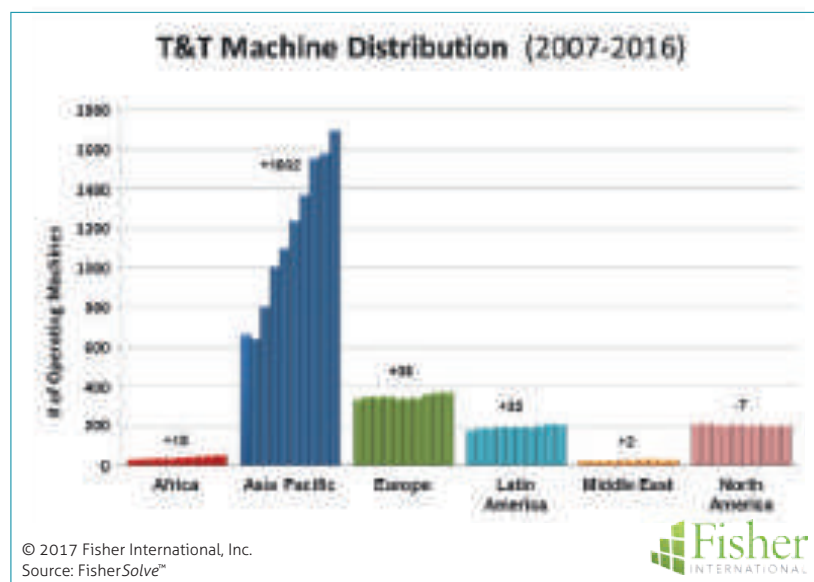


Figure 8: T&T machine distribution (2007-2016).





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anticipated with a new modest line being planned for installation and start-up in 2019 (TM4 at the Ikeja Bel Papyrus site) which will coincide with Nigeria's new 12 billion USD Dangote Oil Refinery scheduled to open in 2019 and slated to be the largest refinery in the world.

As the company-level cost curve of commercial and consumer bath tissue made in Africa (Figure 7) shows, Nigeria has the ability to produce tissue competitively. With better infrastructure, its costs should improve further.

Nigeria's T&T business is underdeveloped by Western standards and somewhat so even among developing countries.

The good news lies in opportunities for the future. Nigeria is a regional hub for manufacturing knowledge and experience. If and when entrepreneurs start to build a market, Nigeria's tissue sector should be well positioned to grow with that market.

Figures 8-10 provide a poignant perspective on the global T&T business. They illustrate not only the yawning gap in production that separates developed and emerging economies but also the considerable opportunity that those emerging economies represent for the T&T market in the decade ahead.

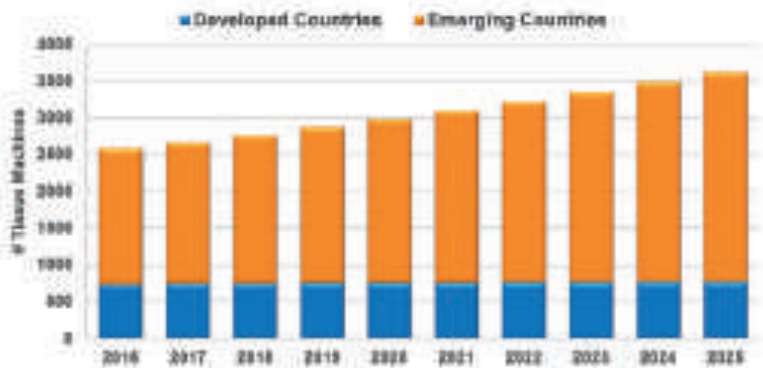
The source for market data and analysis in this article is FisherSolve™.

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*Fisher International supports the pulp and paper industry with business intelligence and strategy consulting. Fisher International's powerful proprietary databases, models, analytics, and expert consultants are indispensable resources to the industry's producers, suppliers, investors, and buyers worldwide.*

*FisherSolve™ is the pulp and paper industry's premier database and analytics resource. Complete and accurate, FisherSolve is unique in describing the assets and operations of every mill in the world (making 50 TPD or more), modeling the mass-energy balance of each, analyzing their production costs, predicting their economic viability, and providing a wealth of information necessary for strategic planning and implementation. FisherSolve is a product of Fisher International, Inc. For more information visit: [www.fisheri.com](http://www.fisheri.com) or email [info@fisheri.com](mailto:info@fisheri.com) USA: +1-203-854-5390*

### Projected Installed T&T Machines by Economic Category in the Decade Ahead

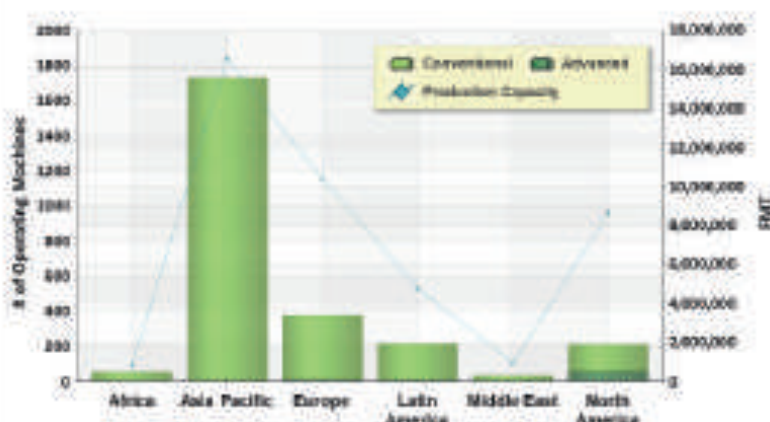


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Source: FisherSolve™

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Figure 9: Projected installed T&T machines by economic category in the decade ahead.

### Tissue Machine Technology by Global Region



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Figure 10: Tissue machine technology by global region.

### Nigeria's T&T Mill Location



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Map: Nigeria's T&T mill location.



# Consumer tissue in Nigeria: Focus on affordability

**D**espite the economic recession in Nigeria in 2016 and slow recovery in 2017, retail tissue sales maintained their upward trajectory, recording an increase in volume of 1% in 2016. Sales are expected to see healthy growth over the next five years, at a 5% CAGR through 2021, to add 14,000 tonnes in incremental sales.

Nigerian tissue consumption still falls significantly behind developed markets. Per capita usage in Nigeria stands at only 0.3kg per year, compared to 13.5kg in North America, 8.7kg in Western Europe and 3.9kg in South Africa in 2016.

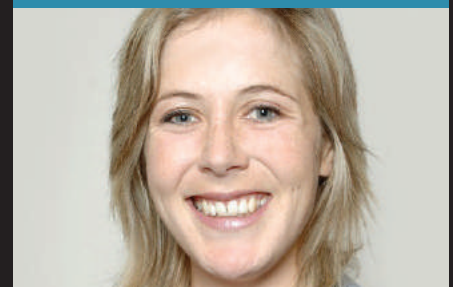
At the same time, Nigeria's unmet potential for retail tissue alone (excluding AfH sales) is estimated to be well over 600,000 tonnes.

Growth in incomes, population growth and habit formation have been the main drivers of demand over the past few years.

While economic slowdown affected the demand to some degree, positive population trends and habit formation will carry the momentum forward, further supported by focus on more affordable products to meet the demand of the vast low-income consumer base. The biggest seller in retail tissue is toilet paper, accounting for 95% of retail volume sales.



Danielle le Clus Rossouw



Research analyst,  
Euromonitor Cape Town

*While economic slowdown affected the demand, positive population trends and habit formation will carry the momentum forward, further supported by focus on more affordable products to meet the demand of the vast low-income consumer base. The biggest seller in retail tissue is toilet paper, accounting for 95% of retail volume sales.*

Retail tissue sales, year-on-year % growth, volume in '000 tonnes

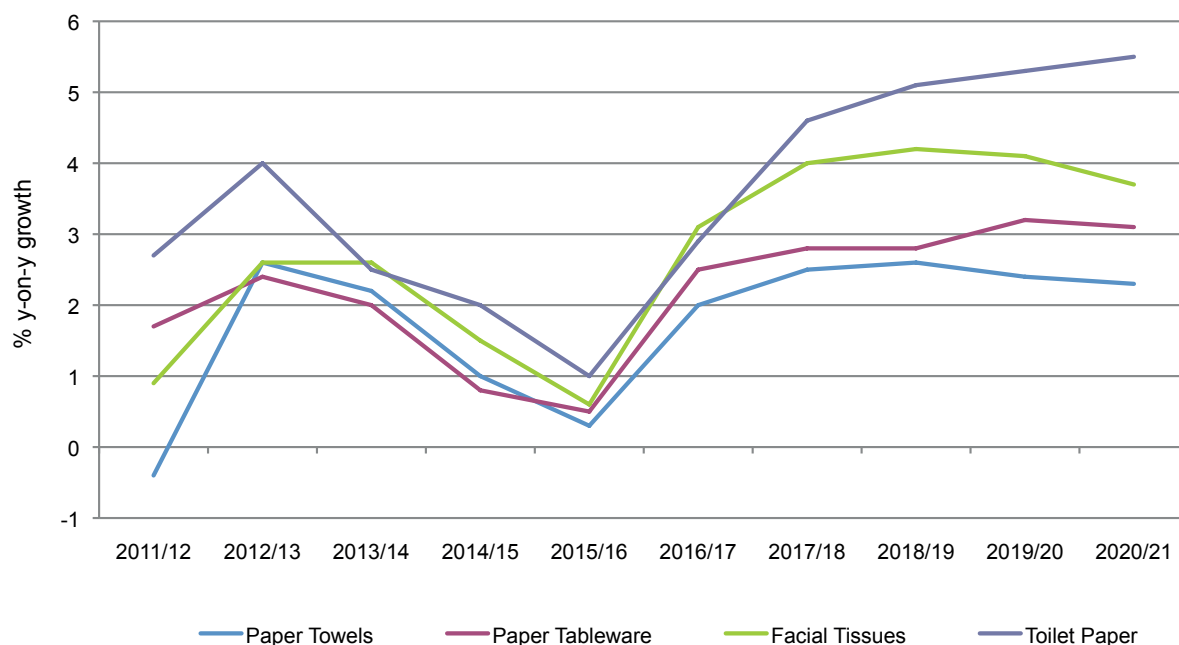
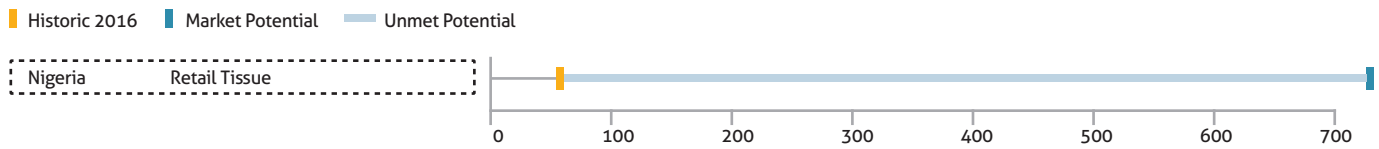


Table 1: Retail tissue sales, year-on-year % growth, volume in '000 tonnes

## Retail Volume Sales '000 Tonnes, 2016-2021. Unmet potential for retail tissue in Nigeria



In Nigeria, it is used for a wide variety of tasks including as a substitute for facial tissue and wipes.

In 2016, retail sales of toilet paper in the country grew 1% in volume, with a further projected CAGR of 4% through 2021.

Recycled toilet paper is expected to drive growth. The relatively low price of toilet paper further supports the continuous purchasing of the product, even in challenging economic times.

### Premium-positioned toilet paper struggles in times of recession

Premium-positioned toilet paper in Nigeria has struggled during the economic recession of 2016 and in 2017. Having only been introduced to the Nigerian market over the last five years, premium products are yet to gain wider acceptance.

Lower cost economy toilet paper brands, on the other hand, have more patronage from the lower-income groups. However, lower priced products also drew middle-income earners due to the recessionary trends and consumer cuts on spending.

### Recycled toilet paper an appealing alternative

Most recycled toilet paper falls into the economy toilet paper category. Nigerian forestry resources have struggled to meet the demand from tissue

*Brands like Rose Plus use a mix of pulp and recycled fibre. On the other hand, brands like Finetex and Softwave are made from 100% recycled fibre.*

manufacturers, which turned to recycled fibre to meet their production needs as well as the needs of consumers looking for cheaper alternatives.

With imports of pulp becoming significantly more expensive in 2016 and 2017, due to the strong depreciation of the local currency, and the shortage of foreign exchange in the country, manufacturers such as Bel Impex sourced more recycled material to produce their brands, such as Rose Plus and Softwave, also making them more affordable.

Brands like Rose Plus use a mix of pulp and recycled fibre. On the other hand, brands like Finetex and Softwave are made from 100% recycled fibre.

Interestingly, recycled content and claims are not usually displayed on the packaging, which helps to motivate sales, as many consumers believe that "recycled" implies the use of recycled toilet paper.

The production of recycled toilet paper at lower costs and as a result better price in retail, coupled with the growing middle-income population becoming more money savvy, further boosts sales of recycled toilet paper.

### Tradition hampers growth

Obstacles to reaching the full potential of toilet paper sales in Nigeria include traditional use of alternatives, mainly water cleansing. It is common amongst Nigerians, especially Muslims who make up about 50% of the population, to use water instead of tissue paper. This restricts the market penetration of toilet paper in the country. However, as urbanisation and modernisation continue, the traditional habits change in favour of tissue products, although not necessarily on a daily basis.

### Affordability to help consumption growth but it is a challenge for industry margins

With a vast consumer base in the low income segments and significant focus on affordable products to drive consumption, unit prices for tissue in retail are expected to fall in real value terms over the next few years.

The trend is facilitated by intense competition from cheaper domestically-manufactured products, which is expected to lead to further price discounting in retail.

While encouraging consumption and further household penetration, lower prices in retail will pose a challenge for the industry's profitability. Cost reduction and economies of scale will therefore be at the core of tissue manufacturers' activities to ensure a balance of low retail price and healthy margins.

*Obstacles to reaching the full potential of toilet paper sales in Nigeria include traditional use of alternatives, mainly water cleansing. It is common amongst Nigerians, especially Muslims who make up about 50% of the population, to use water instead of tissue paper.*



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# ***"We are aiming to be the number one player in Nigeria as well as a formidable force in West Africa."***

***TWM interviews Bola Ataiyero-Adefila, the chief operating officer of Nigeria's second largest converter, Banrut Rolls Nigeria.***

## **TWM/1 : What products do you currently produce?**

Bola Adefila: "We produce all tissue paper products; toilet tissues, napkins, both white and coloured, kitchen towel, pocket tissue and facial boxes. We operate in the consumer, AfH and At-Home markets at the moment. The market for private labelling is not popular in Nigeria, even though we are considering exploring this market."

"We convert an estimated yearly average of 4,500MT which are all for the consumer market. Roughly 48% is considered AfH while the remaining 52% is for At-Home. We have representatives and distributing partners in 34 out of 36 states and 10 converting lines. For now, we operate solely from our Abuja site."

## **TWM/2 : Have you made any recent investments in machinery and if so what and why did you make this particular investment?**

"Yes! In the past year, we have added a new automated Napkin Folding Machine from OMET and linked an automated wrapping machine from Multipack to our existing Napkin lines. We can now

"We can now produce a variety of coloured patterned napkins with customised names and we have also added an Epochief Interfolder from DCM Usimeca with another Cartoner from Jacob White Packaging to our existing facial tissue line."

produce a variety of coloured patterned napkins with customised names and we have also added an Epochief Interfolder from DCM Usimeca with another Cartoner from Jacob White Packaging to our existing facial tissue line. The last machine we bought was a Casmatic 208 from Fabio Perini."

## **TWM/3 : Are you looking to grow substantially?**

"We have grown substantially over the years and we are still growing. We are aiming to be the number one player in Nigeria as well as a formidable force in West Africa. Our goal is to always be up-to-date with technology in terms of the machinery required to ensure optimal outcome in our processes. We are also open to collaboration with reputable companies around in the paper/tissue business. We believe strongly in our consumer and AfH markets so we hope to build our strength in that while we explore the opportunities in the private label market."

## **TWM/4 : What percentage of your production is for local demand in Nigeria and how much of your production do you export?**

"Presently, 98% of our products are consumed locally, but you can get our products in some west African countries. It will surprise you to know that we do not currently have any appointed partner in these countries but our products are in the market over there and as a result of this development, we are now getting lots of enquiries from these countries. We hope to begin exporting to some west African countries in 2018 by appointing suitable partners."



By Tissue World senior editor Helen Morris



*Looking for partners to expand in West Africa:  
Chief operating officer Bola Ataiyero-Adefila*



By Tissue World senior editor **Helen Morris**

*"We believe strongly in our consumer and AfH markets so we hope to build our strength in that while we explore the opportunities in the private label market."*  
**Banrut chief operating officer Bola Ataiyero-Adefila**

## **TWM/5** : Are you seeing growth in the Nigerian tissue market?

"Yes we continually see growth in our local market. Currently, there is an estimated 20% year on year increase in demand for our products and we project that this rate will steadily continue to rise in subsequent years as we are looking to expand our reach. The private label market is not yet popular here but it is an area we are looking to explore."

## **TWM/6** : Is there potential for tissue growth in the rest of Africa?

"The tissue market across Africa is on a continuous growth path, especially in countries with large populations such as Nigeria, which has an urban population rate of 48%, as well as in Ethiopia, Tanzania, Egypt, DR Congo, South Africa, etc. These countries have 8% of the world population with an average fertility rate of 4.6%. As long as the industry players in these countries keep doing the right thing, the market will continue to expand."

## **TWM/7** : How is Nigeria's economy affecting the tissue market?

"The economy of Nigeria in the past 15-18 months hasn't been encouraging. Businesses have experienced setbacks/shutdowns, etc, due to limited access to foreign exchange. After years of positive growth, the economy entered into negative growth in 2016 January.

"Our GDP growth was at the rate of 6.23% in 2014, after a change of government in 2015, the GDP rate dropped to 3.96% and by January 2016 there was a growth of 0.67%. By

"The economy of Nigeria in the past 15-18 months hasn't been encouraging. Businesses have experienced setbacks/shutdowns, etc, due to limited access to foreign exchange. After years of positive growth, the economy entered into negative growth in 2016 January. Our GDP growth was growing at the rate of 6.23% in 2014, there was a change of government, and it dropped to 3.96%."



By Tissue World senior editor Helen Morris

the middle of 2016 it had crashed to -2.34% and the currency was devalued. This situation also affected the buying power of consumers generally and the cost of bringing in materials for production increased to over 40%.

However, the situation is now improving. Economic indicators are showing that we are out of recession as of the second quarter of 2017 and the economy is growing at a positive rate of 0.99%. We've been forced to increase our pricing three times in the past 18 months."

## TWM/8: Is there overcapacity in your local tissue market?

"There is no case of overcapacity, but rather I will say we have a lot of small companies producing tissues as well, but with low capacity and low grades of materials with some of them using locally fabricated machines.

"We have built our standard from inception and most of our customers know us for our quality. They can attest to the fact that we do not compromise our quality so this gives us a competitive edge in the market."

## TWM/9: Are you seeing much demand/increase in demand for environmentally-friendly tissue products?

"Demand for environmental-friendly tissue products is increasing daily in Nigeria, they are cheaper and if you have machines that are technically up to date, your final product is sure to be well presented."

## TWM/10: What are the main challenges for you in the next five years?

"For us at Banrut Rolls, our main challenges would be how to meet the projected demand in the local market and also to



**Premium market:** the company's Vicki Kitchen kitchen towel

ensure the smooth process of exporting our products to other African countries. Also, how to be self-sufficient in some of the materials we currently use in our production, and, above all, the challenge of a stable political system so that we can achieve what we have projected and a stable economy where we hope that the price of oil in the international market will keep increasing as our economy is 95% dependent on oil to earn foreign exchange."

## TWM/11: What are the main opportunities for you in the next five years?

"Expansion in the sense of setting up a paper mill which will help boost our production capacity and sales as the market is still very young and untapped in this regard.

"This will also cater to the needs of smaller tissue converters that demand frequent supply of tissue material in jumbo reels, thereby boosting our overall production.

"Additionally, we have the very imminent expansion into other African countries as we have received demands on a consistent basis from countries such as Ghana, Gambia and Benin Republic."



**Above:** Fabio Perini's Extra 5 automated line helps convert 4,500MT for the consumer market annually

# *Hayat Kimya's \$100m Nigerian plant expands its dominance in Africa*



Above: Hayat Kimya Nigeria's start-up team in Agbara with general manager Hakan Misri second left



By Tissue World senior editor Helen Morris

In June, Turkish tissue manufacturer Hayat Kimya expanded its geographical presence with the inauguration of its \$100m Nigerian diaper and tissue plant in Agbara, Nigeria. Hayat first entered into the Nigeria market in 2015 with its flagship diaper brand MOLFIX, and it now manufactures MOLFIX diapers and Papia Familia tissues at the facility.

Hayat Kimya has 14 production sites around the world and its Nigerian diaper and tissue factory is currently ranked as the most modern Hayat plant globally. This is the company's first major investment in sub-Saharan Africa. TWM interviewed Hayat Kimya Nigeria's general manager and managing director Hakan Misri.

With this plant we have also become the largest tissue manufacturer in the Africa, Middle East and Eastern Europe regions.

## TWM/1 : What does the new tissue plant bring to the Nigerian tissue market and Hayat's global tissue footprint?

Misri: "With the start-up of our tissue mill in Nigeria, Hayat Kimya is now the world's 16th largest tissue manufacturer with 420,000 tonnes of tissue production capacity. Nigeria is Hayat Kimya's first and largest investment in sub-Saharan Africa, and with this plant we have also become the largest tissue manufacturer in the Africa, Middle East and Eastern Europe regions.

"With nearly \$100m invested in technology and the land and people of Nigeria, we have been producing superior diapers and tissue products in our production premises located in Agbara.

"The plant covers 200,00sqm of land and produces 1.3bn baby diaper products and 13,000 tonnes of tissue products annually. The warehouse stores more than 40,000 pallets of goods and





By Tissue World senior editor Helen Morris



**Evolving trends:** innovation is key, and more and more premium products are distinguished with lotions, softpack and packaging

has 15 loading points for trucks at any given time. The factory generates its own electricity, a total of 15 megawatt."

### **TWM/2:** What tissue markets are you in with this site?

Misri: "Our MOLFIX brand is the second strongest in Nigeria's baby diaper market. In May 2016, we launched our 2-ply tissue brands PAPIA and FAMILIA into the Nigerian market as well as various toilet paper and kitchen towel products.

"PAPIA is our premium luxury tissue brand while FAMILIA combines high quality with affordability. These unique products provide our Nigerian consumers with comfort and performance they are looking for."

### **TWM/3:** Do you have plans to grow further in Nigeria and the rest of Africa?

Misri: "Our tissue plant investment in Nigeria will help serve as an export hub. This factory will not only serve the Nigerian market but also the entire West and Central African sub region as well as augment Hayat's North African factories where necessary. We had made a vast investment in Nigeria in just a couple of years and hope to achieve mutual prosperous results.

"Nigeria is part of the Economic Community of West African States (ECOWAS) countries. Member countries include Cape Verde, Gambia, Ghana, Guinea, Senegal and Togo. Today, the

majority of our sales are done within the Nigerian market. We continue our investments to develop and strengthen our export potential."

### **TWM/4:** Why is Nigeria a key tissue market for you?

Misri: "Nigeria offers a great economic potential with her high population and arguably the largest economy in the continent. Yet, the tissue consumption per capita still offers space to grow. The total tissue market in Nigeria is 80,000 tonnes whereas in Western Europe it is as high as 6.3 million tonnes.

"The tissue market in Nigeria currently dominated by relatively low quality, mostly recycled products compared to what Hayat's brands are offering.

"Nigeria's consumption trends in the tissue category are said to be 80% in toilet paper and 8% in kitchen towel. Toilet paper is used for multi-purpose, not only for sanitary purposes.

**"In May 2016, we launched our 2-ply tissue brands PAPIA and FAMILIA into the Nigerian market as well as various toilet paper and kitchen towel products. PAPIA is our premium luxury tissue brand while FAMILIA combines high quality with affordability."**





"Hayat Kimya's brands Papia and Familia distinguish themselves with the quality and the comfort offered to consumer, especially with the 100% pulp-base of all our tissue products. Our tissue products succeed in foreign markets that require high quality as well as innovative technologies from global companies, but with the affordability of local products.

"We believe that increasing sanitary education and income levels of the country will help convert more consumers to our tissue category products.

"Hayat Kimya believes everyone has the right to access good quality products. As part of this approach, Hayat applies high and globally accepted standards in all its production premises around the world with no exception.

"Therefore, any consumer around the world will use the same high-quality Hayat product. Innovation and high quality meets affordability with our brands and differentiate Hayat from its competitors. We invest in the market as we mean to stay in it. Therefore, we do our best to understand the consumer needs and offer them our best."

## TWM/5 : How is Nigeria's economy affecting the tissue market?

Misri: "In 2016, Nigerian's economy slipped into recession for the first time in more than two decades. The outlook for 2017 is for a moderate economic recovery with real GDP projected to grow at 2.2%.

"Consumers therefore tend to shift their shopping tendencies to open markets, shopping necessary unit amounts rather than bulk sizes. They prefer to buy familiar and recommended brands.

"Hayat, as a company offering globalised brands, has succeeded to establish its brands in the market with strong marketing that is directed at consumer activities. We will continue to listen to the consumer and offer products that suit their demands."







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# Building a tissue empire from the Adelaide Mill... England

*Angela Dawson is a writer and poet who has featured on community radio and at various venues around Melbourne, Australia, since 2000. Originally from Manchester, England, this year saw the release of her first book, **Like Two Mexicans Dancing**, a non-fiction tale about falling in love with a fair-haired busker... 15,000km from home. A truly Australian romance, with a backdrop of incredible landscapes, perfect beaches and endless sunshine, this is the story of a little band on their way to the top. Details at: [angelajdawson.com](http://angelajdawson.com)*



I used to delight in telling everyone that my dad sold toilet rolls for a living. Indeed, that's how he ultimately made his fortune, supplying this essential, household commodity. Adelaide Mill was the site of his Oldham factory; the place from which he built his empire and retired early.

I remember asking him about their testing methods. The paper had to be sufficiently strong but light enough to flush around the U-bend. Back then we had regular Andrex adverts on the TV depicting a succession of frolicking Labrador puppies.

Having snaffled the end of the toilet paper, the puppy would unravel it through the endless corridors and rooms of an uncommonly large British home, to demonstrate its three defining qualities. Soft, strong and very long it may have been, but we had dad's own brand, and we were never short of toilet paper in our house.

I grew up in a two-storey home in a family of four. It was the late seventies, early eighties; a time when people decorated their boxes of tissues under lacy doilies.

A wet wipe was a bit more exclusive. The moist towelette beguiled us with its compact practicality, and was associated with package holidays and overseas trips. Typically, it'd be found on your

Spantax airline meal tray, individually wrapped amongst the cutlery, and you'd save it to use later.

At some point we had a plastic container of Wet Ones in the medicine cupboard at home. It was a product that was generally purchased for a summer holiday on an English beach; those halcyon days when you ate gritty sandwiches and got chased by wasps.

No-one really had paper napkins in constant supply, unless you had a birthday party, and needed something in which to wrap slices of cake for your guests. We always had cloth napkins at the table, and learned the correct dining etiquette at a young age. Sunday roast was when they came out, and at Christmas of course.

These days, living in Melbourne, Australia, I have an array of tissue items in my cupboards. Products are readily available from discount shops, chemists and supermarket chains.

I have the obligatory toilet rolls – so, whatever is on-sale at any supermarket, with most sheets per roll – and I don't bother with perfumed, bleached, embossed, or three ply. I'd never think to buy my products on-line, especially toilet paper, given it implies a level of stealth that seems unnecessary.

I'm quite happy to buy recycled or forest-friendly tissue products when available, but paradoxically, some of the green products I've seen in supermarkets come wrapped in plastic.

Then there's kitchen roll, which makes

**I've done my share of trotting around the globe. In Poland, in the years before the wall came down, they used to have stern faced Toilet Supervisors at the entrances to most public facilities. On arrival, they would hand you two squares of paper.**

ideal square napkins, and helps with the clean-up after cooking – especially with oil, which you don't want to go down the sink if you're eco-friendly.

It's also really handy for cold food storage. A sheet of it in the broccoli bag in the fridge will soak up condensation, and keep it fresher for longer.

Kitchen roll makes the perfect wrapping for the smashed smithereens of your only, singularly most favourite insulated glass mug. I've also been known to use kitchen paper when the chain comes off my bike and I need something disposable to handle it.

As for the humble box of tissues, I always have a supply, always in white (which seems fresher for some reason), and I never go out without a handful of them in my bag. The box has a prominent position on my bathroom dresser, since I draw the line at disguising them under anything lacy. I couldn't do without them, for that random sniffle, but I'm not fixated on a brand. I might buy them at Aldi for \$1 a box.

Working in a hospital, we use a lot of paper towels as well as disposable masks, and have paper gowns donned by all staff when a patient is in an isolation room.

Paper napkins are everywhere here, in cafés and take-away outlets, and I do buy them sometimes, often to match the theme of the occasion. They've become an accessorised feature of your table decoration now, sold in kitchenware shops to complement your dinner service.

Party supply shops have a huge catalogue of designs and shapes, depicting flora, fauna and all manner of creatures, real or imagined. However, I have a vintage Bakelite cake stand, and tend to buy either paper doilies or any retro print that will complement its pastel colours.

I've done my share of trotting around the globe. In Poland, in the years before the wall came down, they used to have stern faced Toilet Supervisors at the entrances to most public facilities. On arrival, they would hand you two squares of paper.

All through Eastern Europe in 2007, I was made to pay when visiting public toilets, and toilet paper varied from rough to greaseproof.

Some products now are being made from bamboo fibre, and I'd try them if I ever saw them in the shops. I found an American company online ([us.whogivesacrap.org](http://us.whogivesacrap.org)) that uses bamboo, as well as recycled paper and even sugarcane in their products.

Their irreverent website reminds me of radio adverts that were recorded for my dad's tissue business many years ago ... toilet tissue that would wipe your cares away.

**I have the obligatory toilet rolls – so, whatever is on-sale at any supermarket, with most sheets per roll – and I don't bother with perfumed, bleached, embossed, or three ply. I'd never think to buy my products on-line, especially toilet paper, given it implies a level of stealth that seems unnecessary.**



# Technical Theme: key technical developments from across the packaging machinery industry. A TWM report.

## HMI redefined: a radical technological change in Human Machine Interface (HMI) hardware – and HMI development

**OPTIMA Nonwoven's Gustav Marwitz discusses the recent research results.**

**S**martphones and tablets are continually driving tissue machine operator's expectations from packaging equipment. Until June 2017, Optima has been involved with a project (Phasenübergreifende Entwicklung von Benutzerschnittstellen im Maschinen- und Anlagenbau - or PEBEMA) to determine the cross-phase development of user interfaces in mechanical and plant engineering.

One part of the research project handles organisational issues, and this ensures that the Human Machine Interface (HMI)

development has a higher priority in the engineering process. The goals of this part strive for more speed, more flexibility and high HMI quality early on.

The second part involved hardware. Today's smartphones and tablets mean that users demand intuitive and clearly arranged interfaces in order to operate their devices. But these devices do not always transfer practically over to being used in every instance in the tissue industry. Other devices promise even greater potential.



Gustav Marwitz



Engineering group leader,  
OPTIMA nonwovens



**The HMI:** Optima technician at the control touchscreen displaying information and receiving data input

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In our research study, we asked whether it was possible to merge the hardware requirements from the world of the tissue packaging industry with the world of consumer electronics.

## Industry 4.0: HMI for the modern age

An HMI usually brings to mind the control panel of a machine, which today normally comes in the form of a touchscreen for displaying information and receiving data input in order to pass it on to the machine control system. In actuality, there are other HMIs. Technically, every single adjustment knob and on/off button is a HMI. They, too, are used to issue "commands" to the machine.

The new design of HMIs incorporates all of these control options to generate a new complete HMI concept.

The project examined which forms of operations work best in which cases. This required considering which types of devices might make a splash in the near future. The variety of devices emerging is immense; smartwatches and tablets wired to gloves to virtual, augmented and mixed reality devices. This is why it is especially important for us to understand the potential of the device characteristics against the needs of packaging machine users. Determining the diverse needs and scenarios was one task in the early stage of the project.

All of the devices have been analysed based on criteria that are typically very important in mechanical and plant engineering. For example, converting and packaging machinery can be loud, which means audible warning signals are only suited for a few instances and voice input does not really work for machine control.

The flexible availability of information is another example. Already today, a machine operator or service technician can use the HMI of an Optima packaging system to watch videos of functions and make adjustments to match the situation on the machine, and this is very helpful for understanding processes. The only downside is limited to being mounted to the machine.

Comparing the actual and target state becomes a challenge even if the process

under observation is just a few feet away from the user interface. Tablets are one possible solution for this. But are they rugged enough for use in harsh industrial applications? Flexibility and durability are additional criteria for selecting devices.

Analysis and classification of technology was followed by prototype development of control concepts and validating such concepts. Using precise application scenarios as a basis, the PEBEMA project group has developed design rules and strategies for the new, innovative mix of technology. This was the first step to making it possible to implement the individual requirements for the HMI in projects at all.

The market launch for the new HMI concepts was held in April and it provided a first glimpse into this area. Hololens and other hardware options are now available. They will be further developed and continually analysed by Optima. Meanwhile, the first applications with new hardware have been delivered to customers.

## Development: A new workflow for the HMI

Until very recently, machines were developed sequentially. One step followed the next until finally the software had to be written, usually under tight deadlines. Optima Nonwovens implemented an organisational form suited for mechatronics early on and took part in several research projects. Today, the Engineering 3.0 process has become an established part of the company. An important part of that process is the parallel workflows for mechanical systems, electronics and software, which requires early coordination in a project.

But even under Engineering 3.0, HMI development was simply lumped with software development to date. The PEBEMA project has changed that. Meanwhile, HMI development will run in parallel as a fourth discipline alongside the three mentioned previously.

The lean UX approach used for HMI development has found its way into "cross-phase development". This means that HMI development not only takes place at a new point in time, it also has new "rules of the game" to follow.

In this approach, the requirements of the customer always take centre stage. These requirements are determined and defined specific to users. This is a fundamental difference compared to previous HMIs, which had a structure focused solely on functions.

The structure and display of new HMIs can be oriented to various user roles. The requirements for a machine operator are very different from those of a service technician or a technical director. The latter is interested primarily in analyses such as Overall Equipment Effectiveness (OEE), while the former appreciates a clearly arranged format selection. Thus, customised representations on the HMI are useful.

## Away from functions, towards users

These individual user scenarios that a HMI must display can be represented and developed easily with the help of a separate symbolic language. Over the course of the PEBEMA project, Optima Nonwovens has implemented and adapted a specific symbolic language (Scribbles).

In conjunction with agile software development, the customer benefits from an accelerated processing time. The customer provides feedback on "its" HMI modules and, even when nearing the project end, change requests relating to the HMI are still possible, while a developed HMI is also available at a much earlier point.

In order to prevent detrimental effects on the cost, HMIs – like the machines themselves – will have a modular design. At the same time, the HMI development for each module never really reaches an end.

A continuous improvement process ensures optimal quality and the base functionality is expanded and continuously improved. Many operating systems and control programmes experience successive development based on this principle.

Examples of this include computer and smartphone operating systems as well as automobile control software.

*This article was written for Tissue World magazine by Optima Nonwovens' engineering group leader Gustav Marwitz.*

# Simple, efficient and effective: equip your systems for the future, saving costs and unlocking all the benefits and functions

**Edson Packaging's Josh Goulet talks efficiencies.**

In today's world, it's more important than ever to reduce downtime and access real-time data of machine performance to make educated decisions to improve production lines. Sensors, actuators and control systems have come a long way to provide these detailed analytics. IO-Link is one example of an emerging technology that provides tremendous value to the bottom line.

IO-Link is a point-to-point communication protocol for sensors and actuators that can enhance the flexibility, capabilities and productivity of packaging machines.

This is true of new machines and those already in use. As a robust communication system operating on 24 volts, the main components are: an IO-Link master, IO-Link devices (sensors, RFID readers, valves etc.), and unshielded three or five conductor M12 cables.

An IO-Link master establishes a connection between several devices and an automation system, usually a PLC. IO-Link Masters are typically installed as a remote device, with IP67 rated cables. Each IO-Link master can have many IO-Link ports.

## Remote configuration

The system allows remote configuration, diagnostics, event triggering and the transfer of process data. Furthermore, each port on the IO-Link master is isolated to protected against short circuits and malfunctions.

Coupled with diagnostics, a hardware problem can be narrowed down to an exact spot and fixed right away without opening high voltage enclosures or replacing fuses.

IO-Link has the support of major automation companies including sensor and actuator manufacturers as well as controls suppliers. The automation industry is experiencing rapid growth of IO-Link enabled devices.

As new products come to market they experience wide acceptance and support from suppliers, original equipment manufacturers (OEM's) and end users.

The advantages of using IO-Link are numerous. Devices can be integrated like common fieldbus systems. They



Josh Goulet

Controls supervisor,  
Edson Packaging

are plug and play, no extra wiring or special training is needed, and they can be configured and commissioned in a timely manner.

Diagnostic data, device information and errors can be gathered through IO-Link technology, thus reducing the need for troubleshooting and minimizing the likelihood of failure. IO-Link is used in areas such as preventive maintenance and equipment optimization.

Replacing IO-Link sensors is simple as they are plug-and-play and automatically



**IO-Link connectivity:** advanced robotic mixed-product case packing in action



By Josh Goulet, Edson Packaging controls supervisor

configure without the need of external devices. This is one of many features reducing production downtime by preventing incorrect settings.

### Edson embracing IO-Link technology

Edson has been embracing IO-Link technology for years and deployed many case packers paired with RFID technology (Radio-Frequency Identification). RFID works in a similar way to bar coding as it stores and communicates information to devices.

Some examples include credit cards, library cards and toll collections. Instead of paper bar coding, coin size tags are applied that can read, write, rewrite, and edit multiple times without issue. Edson uses the technology to streamline product changeovers by integrating RFID tags to change parts.

Based on machine product selection, the system will check for the appropriate RFID to run and it will notify the user when an incorrect part is being used.

### IO-Link is not just some new technology; it is becoming an essential component in today's world for making educated decisions and accessing detailed reporting.

Furthermore, the number of cycles each change part has done can be written to the RFID tag on the change part and warnings can be set for scheduling preventive maintenance.

Edson has shown the power of IO-Link by integrating a wide range of new devices. One of them, a heartbeat power supply, functions like other regulated power supplies. However, with its enhanced quality and diagnostics, it is able to function three times longer.

When connected to IO-Link there is a wide array of available information such as: malfunction notifications, input/output voltages, current, stress levels, life expectancy, operating hours, etc.

Another device Edson has integrated was an IO-Link enabled valve bank which

uses a single cable to send power, control and communication. The simplicity of installation and troubleshooting is its best feature. Valves are still controlled by safe power while the CPU processor and communication remain active in an emergency. IO-Link is not just some new technology; it is becoming an essential component in today's world for making educated decisions and accessing detailed reporting.

Machine builders, buyers, operators and maintenance personnel will benefit. Everyone wants fast, clean, simple and effective systems. The future is here.

*This article was written for TWM by Josh Goulet, Edson Packaging controls supervisor.*

## Pulsar targets quality control with Quatis Bags launch

By Massimo Franzaroli, president of Pulsar Engineering

**P**ulsar Engineering has broadened its range of Quatis machines with the launch of the Quatis Bags machine. The range and latest addition aims to increase quality control of tissue products, both wrapped and un-wrapped.

This latest development enriches the range of inspection machines designed by Pulsar Engineering, which includes Quatis Rolls that check the suitability of un-wrapped products (that are positioned next to the log saw) and Quatis Packs (that check wrapped products).

This innovative technology relies on a powerful vision systems and complex algorithms for image analysis that allow the inspection of each product according to present parameters and single user requirements.

By controlling each product, the machine provides elaborate analysis of the frequency and causes of non-compliances, giving the opportunity of

adequately improving the settings of the machines upstream, thus increasing the line efficiency and the overall production capacity.

Every Quatis machine is designed as a stand-alone unit, allowing operators to install it within new or existing converting lines.

Quatis machines do not only simple inspect and analyse each product conveyed, but also provide a platform for the elaboration of all data stored, the generation of periodic reports and the function of filtering and discharging non-compliant products.

The control of 100% of products on the converting line assures the lack of non-compliant products within.

For example, a production batch shipped to a large-scale retailer, and enables operators to monitor the nature and the entity of each non-conformity in order to match it with the operational data of the line.

Quatis Bags check a wide number of non-conformities, such as non-compliant back cross and side sealing, non-compliant print centering, incorrect roll orientation or missing roll, non-compliant logos or images and the presence of the handle.

The non-compliances of every inspected product are identified according to present recipes.

Since the amount of possible non-compliances is unlimited, Pulsar Engineering provides the possibility to define the non-compliances that best fit the products examined, creating real "tailor made" options.

*This article was written for TWM by Massimo Franzaroli, president of Pulsar Engineering.*

## Maximize<sup>®</sup> enzymatic technology from Buckman.

Conventional tissue fiber refining takes a lot of energy. And that takes money, time and a toll on both the fiber and the environment. But mills that have switched to Maximize enzymatic technology are refining and drying with less energy and less cost. They're able to increase strength and softness, use less expensive fiber, speed up production, and reduce their impact on the environment. Your mill can too.

**Go enzymatic.** Contact your Buckman representative and start getting the most out of your fiber with Maximize.

# Buckman

**STRONGER**  
RETURN  
ON  
INVESTMENT



**SOFTER**  
TOUCH  
ON THE  
ENVIRONMENT





# Do you laser? In the world of packaging, less is more.

**Following PCMC's acquisition of flexible packaging machinery manufacturer Graphbury Machines in September, PCMC product & applications leader Carl DuCharme discusses its latest technical innovations.**

**H**ow can you use less labour and fewer materials and yet provide a world-class package with greater product protection? How can you impact the environment less? What are those game-changing innovations that help you lead the way?

Laser roll and sleeve cleaning using the PCMC Meridian (formerly Graphbury) is a game-changer. The ability to harness the power of laser energy to safely and effectively maintain like-new tooling inventory is changing the way printers and converters view tooling inventory management:

- **Efficiency:** The key is first-pass success: the ability to produce an optimal product or outcome with minimal waste and rework. When applying ink, adhesive, lotion, or other solution during a converting operation, it is critical for a consistent application process to employ tooling that is in a condition as similar as possible to when it was new. When looking at keeping printing and solution application sleeve and roll tooling inventory clean, many times it takes several passes/cycles for cleaning equipment to achieve its best clean, wasting precious production time and cost. Meridian laser cleaning technology continues to advance and currently provides printers and converters a solution for one-pass cleaning that achieves like-new surface condition at unprecedented speeds, many times increasing efficiency 300% or more.
- **Environment:** Every producer has environmental consideration top-of-mind. Converting creates waste, so the goal is to minimize the impact of every portion of the process. PCMC Meridian laser cleaning uses no water. Nothing goes down the drain. It does not create a dusty environment. It requires no air supply. It uses very little energy. It is designed to make the process of sleeve and roll cleaning friendly to the environment.

- **Safety:** Operator safety and well-being are of utmost concern as well. Avoiding injury and reducing fatigue help to make each day more fulfilling. The PCMC Meridian is designed to allow easy access to all parts of the machine without compromising operator safety. Additionally, the automatic cleaning cycle, flip-up cleaning area access door, easy-to-use operator interface, and large cleaning area access opening offer enhanced ergonomics to the operator. Its design also complies with international safety regulations.

- **Effectiveness:** Various process can clean tooling, but do they clean effectively? Are they able to achieve like-new condition of surface engravings? Many types of sleeve and roll cleaning equipment come with claims of fast cycle times that fail to mention sub-optimal cleaning effectiveness, requiring multiple passes and most times ending up with a product that is not thoroughly cleaned.

The PCMC Meridian deep cleans engravings of any line screen thoroughly in a single pass. In many cases, after-cleaning cell volume measurements match almost exactly the original cell volume engraving. This relieves stress from production processes by allowing consistent output from tooling without having to adjust solution formulas or equipment settings.

The Meridian effectively removes inks, adhesives, glazes, stiffeners, coatings, and varnishes from ceramic and chrome surfaces. Using auto-focus technology, it optimizes the laser's energy in order to pulverize any residue deposited on the engraved surface.

## Economics

Maintaining tooling inventory incurs cost, including the cost to clean, the cost to repair or replace tooling damaged during the cleaning process, the cost of supplies needed for cleaning, and the cost to maintain cleaning equipment. What if each of these costs was significantly



reduced? What would that mean to your profits?

There is also a cost to having tooling that cannot be cleaned. Is your converting process stable and consistent if your tooling is unevenly cleaned? How much time is spent achieving process baseline by adjusting solution formulas and equipment settings? Downtime is expensive.

The PCMC Meridian requires almost no maintenance and virtually no spare parts. It does not cause roll or sleeve surface damage or wear during cleaning and does not increase surface temperature. It requires no chemicals, no cleaning media, no air supply, no water supply, no personal protective equipment, and no other supplies. Its design is continually advancing, and cleaning cycle times will continue to fall as a result.

PCMC Meridian laser technology is what's next in the world of roll and sleeve cleaning. This is just the beginning of its story, and it will continue to offer advantages to printers and converters into the future. PCMC continues to research additional developments using laser technology that will surely enhance other areas of the converting operation as well.

*This article was written for TWM by Carl DuCharme, PCMC product & applications leader.*

# Tissue and towel packaging: consumers demand higher quality.

By Jill Thiede, strategic account manager, PCMC

In recent years, the tissue market in North America has shifted dramatically to structured sheet, high-quality, product-branded and private-label products. Similarly, packaging needs in the private market have also changed.

Retail chains are requiring higher standards of quality for the tissue and towel products that they put on their shelves. Both bundles and packages take up significant shelf space, and high-quality appearance is important to appeal to both customers as well as retailers.

Many retail outlets are requiring their paper products to be in tight packages and bundles that showcase well on the shelves. However, these tight packages cannot damage, collapse or mark the tissue or towel rolls inside as consumers require that their products are not compressed or deformed.

Consumers want their rolls to easily turn in their holders. Continuous motion flow wrapping provides a unique solution to provide tight packs and bundles while preserving the loft and bulk of TAD substrates and structured sheets. Positive film control through belted surface area allows the XF800 wrapper, MFTD bundler, and HC-40 bundlers from PCMC to ensure each product is perfectly placed with respect to the film position.

Packages made on these machines appear tight, while never impacting the overall appearance or performance of the rolls inside. The PCMC continuous motion packing offerings also have closed loop tension control systems that compensate for variations, making excellent, shelf-ready packs and bundles.

Another key quality factor for both retail customers and consumers is the lap seal. Failed lap seals cause frustration for everyone whether it be in transit, in the stores, and at homes. PCMC offers a new Fast Response Lap Seal System that allows for a stronger seal, while providing a slimmer, more appealing appearance.

This system includes hardware and software to ensure the best performance for this key operation. Also, less width on the lap seal can reduce the overall film panel size required to wrap a given package, reducing the raw material costs.

The Fast Response Lap Seal System heats up and cools down faster and more efficiently than other systems, which provides both safety, cost and reduced floor space benefits for manufacturers.

With bundles and packages increasing in overall size, the graphics on packages have become billboards for advertising the products while sitting on the store shelves.

This is true for both nationally known products and for smaller private-label offerings.

Many manufacturers have changed their approach to graphics on their products, providing wrapping in more eye-catching colours and designs. It is critical that these designs line up perfectly with the product in order to have a positive impact on the consumer while walking down the paper aisle.

Packaging equipment must be able to maintain excellent registration on every pack. With continuous flow technology, registration is managed much more



Jill Thiede

Strategic account manager,  
PCMC

tightly and requires significantly less operator intervention to maintain high-quality packages.

Also, the PCMC packaging equipment provides the flexibility to move the lap seal to different positions on the package, allowing for more flexibility in the overall package design. This allows for future changes in product design and packaging as well.

Manufacturers today are required to provide value in their complete offering for customers and consumers. They need to not only optimise their tissue and towel products, but need to ensure that they are providing those products in durable and appealing packages and bundles.

Equipment like the PCMC XF800, MFTD Bundler, and HC-40 Bundler can provide high quality packages and bundles, while still offering the highest speeds in the industry. In addition, the packaging offering provides the flexibility and quality to allow manufacturers to react to ever-changing market requirements.

As the market continues to become increasingly competitive, all manufacturers will need to ensure that every package and bundle meets today's and tomorrow's exacting standards.

*This article was written for TWM by Jill Thiede, strategic account manager, PCMC.*

**The Fast Response Lap Seal System heats up and cools down faster and more efficiently than other systems, which provides both safety, cost and reduced floor space benefits for manufacturers.**



# Overcapacity – Promotions – Private Label – Population – Prices – Energy – Income – Automation – Added Value - Growth - M&A - Sustainability

*Sacrifice short term profitability for long term opportunity – the increasing dilemma? TWM asked industry experts around the world to access the state of the industry as the search for 'growth frontiers' gets ever more competitive.*

O

Helen Morris

Senior Editor,  
Tissue World magazine



**Svetlana Uduslivaia**

Head of tissue & hygiene industry,  
Euromonitor International, global



**Juliano Isley da Silva**

Director general, Indaial Papel,  
Brazil



**Paul Fecher**

Chairman, Northwood Paper Sales,  
UK



**Mario Matteucci**

Chief marketing & sales officer,  
Sofidel, Italy



**Joan Vila**

Chief executive, LC Paper, Spain



**Phillip Lawrence, PhD**

Australian-based industry analyst



**Ed Graf**

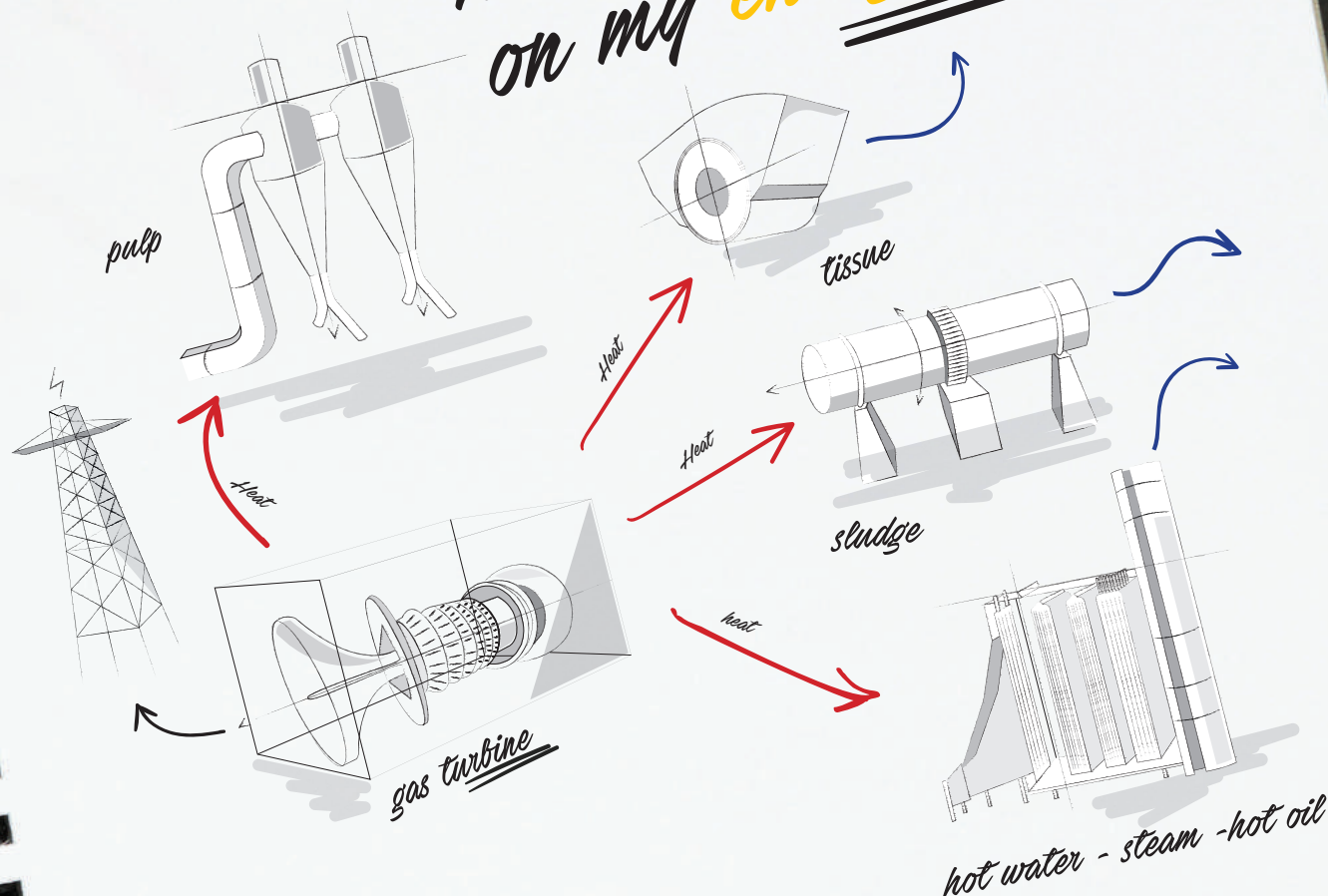
Consultant and inventor, USA



**Jonathan Sher**

Director, Universal Paper & Plastics,  
South Africa

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*"Private label remains very much in focus. It already has a significant chunk of sales in the developed markets, further supported by expansion of discounters like Aldi and Lidl. Private label has also been gaining in some of the key growth markets, such as for instance Russia and Brazil."*

Svetlana Uduslivaia

**Svetlana Uduslivaia,**  
**head of tissue & hygiene**  
**industry, Euromonitor**  
**International, global**

"Rising costs and overcapacity vs slow population growth and market saturation have been a challenge for developed markets. Unmet potential in developed regions is limited, with markets lacking in opportunities for significant organic growth. This is further exacerbated by the reluctance of many consumers to pay extra for household staples. High level of promotional activity and downward pressure on prices affects retail tissue. This is not to say that there are no opportunities for value-added products. However, the benefits of such products need to be tangible to consumers, ie not just yet another super soft and yet another super strong.

"Additionally, AfH demand is unfavourably affected by ageing population (i.e. fewer people in labour force, fewer employees), structural changes such as automation in manufacturing, budget cuts. But there are opportunities in, for instance, high end/luxury hospitality in both developed and increasingly developing markets, e.g. markets like China where high end hotels are growing. There are also opportunities in "green" and sustainable products in AfH space, but once again these products need to offer real solutions to real problems for the AfH customers.

"Growth frontiers have been shifting towards the developing markets with higher unmet potential. For instance, in India and Nigeria, unmet potential for retail consumer tissue is estimated to be US\$11bn and US\$2bn, respectively, in incremental sales. The demand in

developing markets is supported by improving incomes and infrastructure, higher population growth, improving employment rates and sanitation/hygiene standards at home and AfH, etc. However, the challenge is the high proportion of low income consumers across most developing markets who cannot afford tissue products. Hence, the issues of product access and affordability are high on the agenda. Addressing these also means weighing (and sometimes sacrificing) short term profitability vs long term growth opportunity.

"In terms of tissue trends, we're certainly seeing more growth potential in the developing markets, but with challenges as described above.

"Private label remains very much in focus. It already has a significant chunk of sales in the developed markets, further supported by expansion of discounters like Aldi and Lidl. Private label has also been gaining in some of the key growth markets, such as for instance Russia and Brazil.

"In both retail consumer tissue and AfH tissue, innovation remains an important driver but needs to focus on offering real solutions to have a chance at long term growth/success and not just temporary spike often also driven by promotion activity which undermines margins.

"As for the economy, value/revenue and volume growth has certainly been affected by the recent economic downturn in key growth markets like Brazil and Russia, for instance where reduced consumer purchasing power led to bargain shopping/search for lower prices, scaling back on purchases of non-essential items like facial tissue and paper towels, etc. Private label, on the other hand, typically benefits from weaker economic conditions. In Russia,

private label sales pretty much tripled over the past five years and now account for a sizable portion of retail tissue sales in the country, with some major retail chains fully controlling the production and supply of tissue products sold under their own brands.

"Developing countries are the markets of future tissue growth. Some of the fastest growing markets in the next five years (by volume) are India, Indonesia and Vietnam in Asia, Algeria and Morocco in North Africa, Russia in Eastern Europe, and a number of others.

"China, while already reaching high per capita consumption still has a capacity to generate estimated USD10 billion in incremental sales in retail alone, in addition to further opportunities in AfH space.

"Among the key challenges globally are: slow demand and production overcapacity in developed markets; high unmet potential but low incomes and weak infrastructure in developing countries.

"Opportunities: products that offer tangible solutions and benefits for AfH and retail customers; re-assessing consumer base in view of growing immigration/diversification and respective changes to consumer preferences; opportunities in high end hospitality industry; opportunities in private label; opportunities in affordable solutions in the developing markets."

**Juliano Isley da Silva,**  
**director general, Indaial**  
**Papel, Brazil**

"During 2017, there have been three key issues that have directly influenced the Brazilian tissue market. The first is the economic crises: the late turn-around of the Brazilian economy has influenced the unemployment rate and consumption. This has frozen the growth in demand for tissue products and has made tissue makers life even more difficult.

"The ratio between supply and demand in tissue is the number one topic in the agenda. On the supply side, even though demand for tissue products isn't increasing, we are still seeing new paper machines starting up. This will add more pressure on prices in the coming months.

"We are addressing this by diversifying our portfolio, providing a high-quality service and products to our customers, and getting productivity gains by investing in the workshop and our people. We must become more and more competitive in the short/medium term.

"Lastly, pulp prices: they have been increasing during 2017, including the second half of the year. Pulp prices are the most significant topic in our agenda nowadays, together with the actual recession in the country.

"In summary, from a tissue manufacturer's point of view, we see a very difficult period in front of us and a lot of hard work to be done to balance rising costs vs sales price in a pressured market.

"In terms of tissue trends, due to a pressured demand side and additional capacity being started up in Brazil in the next 12 months, I see a big rally to become more and more competitive. It will come by several means: improving machinery and process, cutting costs and maybe by consolidation in the market.

"Exports are also key for us and we take them very seriously, and a part of our production goes to it. But also, we are very conscious that it has limitations due to freight costs."

### **Phillip Lawrence, PhD, researching the Asian forestry, pulp and paper sector, Australia**

"The tissue industry hasn't experienced any significant changes structurally here in Australia over the past 12 months. Most of the change factors are to do with the economy.

"Australia has a classic two-speed economy where the eastern states are booming and the minor west of the nation is struggling. There are also major differences in industry sectors around the nation which means some people in Australia are experiencing additional spending ability while others are finding wage growth stagnate or even going backwards.

"The interest rates are currently sitting at historically low levels at 1.25% and this means that while many people have

gone backwards financially, they have ready access to credit meaning long-term debt is looking worrisome.

"The effect on tissue is then a direct factor of constrained retail trading. Retailers are looking how to reduce costs for their customers which of course means lower prices, usually felt by retail suppliers across the board. There is increased pressure of private label so that retailers can control store prices.

The tissue industry is fighting back with innovation as much as retailers allow, such as wet wipes and some sanitary products. However, each attempt to introduce new categories creates an opportunity for private label to "hi-kick" the product concepts. This trend is set to continue.

"Products from Indonesia now have some legitimacy in the Australian market after a long period in the wilderness. However, for the manufacturers they are entering a market that is getting tougher each month.

"The Australian retail sector has been historically dominated by two major firms collectively controlled 95% of the market. Over recent years there have been new companies coming into the market gaining significant share so the new actors have a bulk purchase low cost model that is a significant challenge for the traditional two companies. As a result, the retail sector is becoming more and more competitive in Australia.

"The economic future for Australia may have a major bearing on the performance of the tissue sector. There is continued speculation of the obvious overpriced housing market on the east coast of Australia. If there is any upward trend in national interest rates the over exposed credit households will certainly cut back on premium grade tissue products, let alone a likely decline in volume."

### **Joan Vila, chief executive, LC Paper, Spain**

"During the past year, our company consolidated our presence in the tissue market in both the Iberian and French markets, and considerably increased our export outside the euro zone thanks to the value of the euro.

"The impact of the pulp price increase was reasonably well supported, while

the overcapacity of the Iberian market is going to occur in 2018 and will be of very great gravity to the region.

"Our position for 2018 is to sell structured tissue in the international market and stay out of the battle in the Iberian market. In principle, we will sell only finished product, but we may also sell structured jumbo coils in the middle of 2018. The change in the dollar with the euro appears as the main factor of international competitiveness.

"We are opening new international markets such as in the Middle East or China based on the new OnePly structured product, competing with TAD and NTT, in addition to the better known markets like Mexico or Chile.

"Our strategy is developed by innovating new products and ideas. In addition to consolidating our OnePly structured product, we are developing functional tissue using appropriate lotions for each use. We are also finishing up on developing a new concept of centerpull toilet tissue."

### **Ed Graf, consultant and inventor, USA**

"I have seen a mixed reaction seemingly due to the lack of a domestic comprehensive tax reform policy. This has manifested itself as some delays in proceeding with new projects, while in the meanwhile others nevertheless started their planning in earnest due to pent up demand.

"Certainly, the announced \$400m Georgia-Pacific expansion in Palatka, FL, is a good example of this.

"Globally, we are seeing continued growth potential due to new markets in Asia and technology-driven expansion in older markets.

"In terms of demand for tissue, living in the Midwestern US near Green Bay, WI, things seem to be less volatile in this the "Tissue capital of the World". I believe that continued demand in tissue versus the sadly declining printing grades has kept the tissue side more vibrant. There are of course, new technologies including Air Dried Tissue as well as the increased importance of new fibre sources such as bamboo and maybe to



as lessor degree, wheat straw, that are becoming interesting."

**Paul Fecher, chairman,  
Northwood Paper Sales Ltd &  
Associated Companies, UK**

"There has been a rapid and dramatic cost inflation feeding into the supply chain which in the period till Q4 2016 was mostly sheltered by oversupply of both pulp and tissue. However, these surpluses were absorbed and by Q1 prices were being increased for both base commodities.

"Negative volatility in exchange rates for the Dollar, Euro and British Sterling added to the growing pressure in China which was sucking in ever increasing volumes of pulp as well as higher grades of waste paper. All these factors guaranteed the direction of travel for price. Surplus capacities due to increased demand in all regions were absorbed.

"The squeeze between increased raw material and lag of price recovery has produced casualties resulting in mill closures, customers profitability shrinking. There is an industry-wide need for price inflation. From the UK perspective, the collapse of Sterling which could benefit export was a double-edged sword; our only indigenous raw material – UK waste paper – became an attractive supply market which in Dollars or Euro meant domestic buyers had to match the export levels so prices went up. Due to cost inflation, the main consumer brands have shrunk in size and there is a continuing trend for purchasing private label where value for money is assured and quality cannot be compromised.

"Opportunities do exist for export if ones cost structure and Forex exposure is managed diligently. We have always been outward looking and have an excellent range of supply partners and due to our volume demands we are maintaining important relations and also adjusting our business modal to enable in collaboration meet their expectations as long term partners.

"With natural disasters, financial challenges, as well as continuing war and the spill over of hostilities, we are constantly engaged with customers as well as suppliers so we can mitigate and navigate successfully through financial

and physical scenarios using our well-honed management tools.

"As developing nations leapfrog the demand for quality products, top quality tissue is in many regions a sign of affluence and prestige and this is evolving into a huge demand for all sectors of toilet, facial and eventually kitchen towel. The mature markets are demanding better quality products more plies and higher gsm therefore consuming more tissue each year.

"In our world of tissue, the only constant is change. It is important to read correctly the time for investment and also consolidation. The supply balance between availability and demand are crucial to try to have a balanced market. The success of the tissue paper machine producers gives rise to oversupply especially when numerous machines come on stream in similar time scales in any one region.

"We are continuing our policy of safety in all our plants integration, consolidation and investing in people, purchasing up to date equipment to become as low cost manufacturer as possible without compromising quality or value."

**Mario Matteucci, chief  
marketing & sales officer,  
Sofidel, Italy**

"We saw a sharp rise in pulp cost, both in softwood and in hardwood pulp. This required a greater effort to reach margins.

"As for the US market, the strengthening of private label products, which tended to increase their quality and performance, meant that they became more competitive in comparison with brands. We expect to see private label products continue to reinforce their positioning on the US market, increasing their market share.

"We assume that the technological breakthroughs – such as digitalisation, big data, smart manufacturing – will impact our industry more and more. So it is likely that in a few years there will be big changes in production as well as in supply chain and in distribution. We think also that sustainability will continue to be a critical and strategic leverage to confront these challenges.

"From a Sofidel standpoint there is an interesting and steady increase in demand of tissue products in Eastern European countries.

"The world is becoming more populous and the demand for natural resources (energy, water) will rise. As part of the tissue sector, we have to play a proactive role in reducing our environmental impact and safeguarding the natural capital, by enhancing our products' performance, promoting responsible consumption and creating shared value for our stakeholders along the whole value chain."

**Jonathan Sher, director,  
Universal Paper & Plastics,  
South Africa**

"Rising pulp costs have really hampered growth and margin as we are unable to pass on these costs to our customers and it is making it extremely difficult to compete with low pricing of imported parent rolls from Asia. There are also a few mills coming on stream which is going to cause an oversupply of parent rolls and make pricing more competitive.

"Private labels are continuing to grow and push their brands and are not leaving much space in the stores for company owned brands. There is also a devaluing of the toilet paper category as retailers continue to promote and sell products at below cost and are doing this weekly. This forces producers to give into these below cost prices in order to still play in the market and have a chance of survival.

"We are quite isolated from the economic conditions from around the world as we have our own massive economic and political problems that are hampering the growth and development of our country. We have an extremely volatile currency and this is affecting our primary raw material costs constantly as these are all dollar based.

"The major challenge for all tissue producers worldwide will be the rising hardwood prices as this is going to put margins under strain, especially when there are some producers in Indonesia that are undercutting the market with their pricing for parent rolls and finished products. This is a big worry for all producers as it is making it even more difficult to be competitive and to sell tonnage to keep factories going."

# With 10-15% growth y-o-y, Star Tissue is making the headlines at home and abroad

*Named as one of Europe's most dynamic SMEs, this Blackburn, UK-based tissue converter talks opportunities in a post-Brexit Britain.*



*Above: A range of Star Tissues' commercial hygiene products manufactured at its Blackburn, UK-based site.*

**UK**-based, family-owned tissue converter Star Tissue is on a roll. Established in 2003, it was recently named one of the London Stock Exchange Group's '1,000 Companies to Inspire Europe'. The 2017 report celebrates the continent's fastest-growing SMEs and examines the opportunities and challenges they face, looking at the sectors and trends that will shape the future of Europe's economies. Star Tissue's managing director Khalid Saifullah talks to TWM about market strategy, Brexit, and opportunities in times of uncertainty.

**TWM/1:** What strategy has Star Tissue undertaken to be named one of the '1,000 Companies to Inspire Europe'?

"We are honoured to be up among the elite of Europe. We didn't apply to be included in this report, but were contacted independently. The judges have looked at ROI, investments and growth, and so we are proud that we have stood out for these reasons. We have made continued investments in converting and this has meant we can improve our manufacturing and service abilities, and also diversify our product offering.

"We closely watch market trends here and all of our investments have been made to closely reflect these trends. For example, such investments in new manufacturing technology has

enabled us to emboss each ply separately and then laminate the plies together creating a stronger sheet with greater absorption capacity. We use the latest production methods producing a high-quality finish to the end of the rolls. We can now offer a wide range of very competitively priced and high quality products efficiently with short lead times and the flexibility to match the products to the needs of individual clients and sectors.

"We convert virgin and recycled tissue, are FSC-certified, and we're also accredited with ISO 9001, 14001 and OHSAS 18001. Introducing these certifications into the way we operate has been very successful. As a result of all this, we've been growing between 10-15% year-on-year and forecast this growth to continue."

**TWM/2:** What are your plans for your site in Blackburn, UK?

"Currently we convert 18,000tpy of mostly AfH products that are then sold into the UK and Ireland, with some also exported into Germany. We also manufacture private label products for major suppliers and distributors in the personal hygiene, catering and medical markets in the UK and Ireland. Around 20% of our output is for the consumer tissue market and its premium quality brands include Sirius, ecoroll, Bliss and Evotex.



"We are seeing a lot of increase in demand for these types of products, largely because after Brexit the UK has seen an influx in tourism as the value of the pound is so low. We currently have three PCMC-supplied converting lines and are looking to invest in a fourth line in the near future."

### **TWM/3 : What trends are you seeing in your local tissue market?**

"It has been incredibly busy year. There's been a significant increase in demand because of the increase in tourists visiting the UK due to the cheaper pound and also the weather here during summer was very good, so more and more people have been dining out, and enjoying a vacation in the UK."

"This has been a positive outcome of Brexit. Capacity is definitely increasing and we're seeing an increase in demand for all our tissue products and we have been steadily increasing our market share. We've been investing further in order to keep up with all the new demand, both in terms of machinery and also in our facility and hoping that would be sufficient, but we'll need to invest again. We also expect demand for private label products to continue to increase and this has been a large part of our business and we are very strong in that sector."

### **TWM/4 : How has Brexit impacted you and the tissue market in the UK?**

"Following the decision to leave Europe, some of our customers have switched their supply to the UK due to the higher cost of importing because of the weaker pound. This is another positive outcome of Brexit but I believe it will be short lived as we are also paying more for the cost of tissue from abroad and this will be passed onto the customers eventually."

"Whilst Brexit brings some opportunities it also presents many challenges for us as an International business."

"With the UK being a net importer of tissue which is purchased

in dollars or euros and pulp generally traded in dollars cost of raw material has risen by over a fifth due to significantly weakening of the pound. The volatility and uncertainty created by this will continue to have an adverse effect on the paper converters in the UK, until we have a better understanding of the type of trading relationship we will have with Europe after Brexit."

"Also many converters have been very slow to recover the increased costs of paper through price rises, this wait and see approach could be very costly for some as we expect significant price rises in the finished product by the end of the year. Until we can raise the levels of tissue production in the UK to meet our requirements we will still be hugely reliant on foreign imports to meet our domestic demand."

### **TWM/5 : What are your main opportunities?**

"We will continue to build on our growth, increasing our investment in our brands but also expanding into new sectors. Because of the significant increase in demand, we will be looking to further increase our production capacity by adding another production line. We have already received planning permission to build another warehouse in our Blackburn site."

"We'll be further enhancing our product range by introducing new advanced products using the latest manufacturing techniques into the UK market. We'll also be looking to increase our exports in Ireland and Northern Europe and expanding our current range into other specialised sectors. We are tight on capacity as we're growing so quickly, so investments are being implemented as we speak this will also include packaging lines, robots etc."

### **TWM/6 : What are your main challenges?**

"Brexit. There's so many unanswered questions about the European trading bloc and how it will all develop and the impact on currency. We expect to see more and more pulp increases also.. where will all this lead us?"

"The world is also seeing more natural disasters which are happening in areas around the world where we source our pulp from, so there's also a big question mark about how that will impact business. We are a family business and have a strong relationship with our suppliers and customers in the UK and in Europe. Our business is focused on relationships, that's been our strength and will continue to be so. Our growth and success has come from existing customers and working with them so they can expand, and so we in turn also expand."

"As a business we are very nervous about the impact of Brexit on the UK paper industry but where there are challenges there are opportunities. I am confident that with our strong partnerships with national and international paper mills and our investments in automation improving our productivity and efficiency means we are well positioned to manage the risks Brexit presents whilst positioning ourselves to maximise the opportunities also."



Above: Star Tissue managing director Khalid Saifullah.

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# Events Calendar

Event	Date	Location	Website
Paperex / Tissueex 2017	November 1- 4, 2017	New Delhi, India	<a href="http://www.tissueex.com/en-GB">www.tissueex.com/en-GB</a>
Expocorma 2017	November 8- 10, 2017	Bío Bío, Chile	<a href="http://www.expocorma.cl">www.expocorma.cl</a>
London Pulp Week Symposium 2017	November 9, 2017	London, UK	<a href="http://www.pulpweek.co.uk/">www.pulpweek.co.uk/</a>
Appita - Annual Conf. and Ex. 2017	November 14- 16, 2017	Melbourne, Australia	<a href="http://appita.com/what-we-do/events">appita.com/what-we-do/events</a>
European Paper Week 2017	November 28 - 30, 2017	Brussels, Belgium	<a href="http://www.cepi.org/EPW">www.cepi.org/EPW</a>
Labelexpo Asia 2017	December 5 - 8, 2017	Shanghai, China	<a href="http://www.labelexpo-asia.com/">www.labelexpo-asia.com/</a>
Paper One Show 2017	December 11- 13, 2017	Sharjah, UAE	<a href="http://www.paperoneshow.net/">www.paperoneshow.net/</a>
Paper Week Canada	February 5 - 8, 2018	Montreal, Canada	<a href="http://www.paperweekcanada.ca">www.paperweekcanada.ca</a>
PAPER2018	March 11 - 13, 2018	New York, USA	<a href="http://www.gonpta.com/?page=Paper2018">www.gonpta.com/?page=Paper2018</a>
Pulp And Paper Conference 2018	March 19 - 22, 2018	North Carolina, USA	<a href="http://idconevents.com/">idconevents.com/</a>
Tissue World Miami	March 21 - 23, 2018	Florida, USA	<a href="http://www.tissueworld.com/miami/">www.tissueworld.com/miami/</a>
PaperCon 2018	April 15- 18, 2018	North Carolina, USA	<a href="http://www.papercon.org/">www.papercon.org/</a>
International Pulp Week	May 6 - 9, 2018	Vancouver, Canada	<a href="http://www.internationalpulpweek.com/">www.internationalpulpweek.com/</a>
ISSA/INTERCLEAN Amsterdam	May 15 - 18, 2018	Amsterdam, Netherlands	<a href="http://www.issainterclean.com/">www.issainterclean.com/</a>
PulPaper 2018	May 29- 31, 2018	Helsinki, Finland	<a href="http://www.adforumworld.com">www.adforumworld.com</a>
Asian Paper/Tissue World Bangkok 2018	June 6 - 8, 2018	Bangkok, Thailand	<a href="http://www.asianpapershow.com/">www.asianpapershow.com/</a>
ZELLCHEMING-Expo	June 26 - 28, 2018	Frankfurt, Germany	<a href="http://www.mesago.de/en/ZEX/home.htm">www.mesago.de/en/ZEX/home.htm</a>
Tissue World Istanbul	September 4 - 6, 2018	Istanbul, Turkey	<a href="http://www.tissueworld.com/istanbul">www.tissueworld.com/istanbul</a>
Labelexpo Americas 2018	September 25-27, 2018	Chicago, USA	<a href="http://www.labelexpo-americas.com/">www.labelexpo-americas.com/</a>
ISSA/INTERCLEAN North America	Oct 29 - Nov 1, 2018	Dallas, USA	<a href="http://www.issainterclean.com/">www.issainterclean.com/</a>
PAP-FOR Forum	November 13 -16, 2018	St. Petersburg, Russia	<a href="http://www.papfor.com/en/home/">www.papfor.com/en/home/</a>
Paperex South India 2018	November 15-18, 2018	Chennai, India	<a href="http://southindia.paperex.in/">southindia.paperex.in/</a>



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**What is your company's primary field of business (tick all that apply):**

### A. INTEGRATED TISSUE PRODUCTS MAKER

**Primary business making paper and producing:**

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

### B. JUMBO ROLL SUPPLIER

- ☐ Jumbo Roll Maker, for sale to converters

### E. SUPPLIER TO THE TISSUE INDUSTRY Please check all that apply:

- ☐ Paper making machinery  
☐ Fabrics, felts, clothing  
☐ Drying technologies  
☐ Process automation and control  
☐ Water treatment, environmental and effluent control  
☐ Dust control and air treatment systems  
☐ Doctors and creping blades
- ☐ Deinking  
☐ Stock preparation, fiber processing and pulping equipment  
☐ Fibers: Market pulp and recycled fiber  
☐ Chemicals and chemical technologies
- ☐ Converting machinery and supplies  
☐ Printing machinery and supplies  
☐ Inks, glues and dyes  
☐ Embossing rolls

### C. TISSUE CONVERTER

**Primary business is converting jumbos and producing:**

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

### D. RETAILING AND DISTRIBUTION

- ☐ Retailer  
☐ Broker  
☐ Distributor
- ☐ Knives and blades  
☐ Folders/interfolders  
☐ Cores and coreboard  
☐ Wrapping/Packaging equipment and supplies  
☐ Transport and logistics
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### Signature

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# TWM **MILL** 2018 **AWARDS**

TISSUE WORLD MAGAZINE

DEADLINE FOR  
ENTRY SUBMISSION:  
31 JANUARY 2018

An initiative by Tissue World magazine to celebrate and recognize years of sustainable tissue paper production and innovation.

*Organized in conjunction with  
Tissue World Miami 2018*

## 2 AWARD CATEGORIES NOW OPEN FOR ENTRY SUBMISSION

- **The Most Energy-Aware Mill Award**  
*Calling tissue mills with outstanding sustainability initiatives*
- **The Best Tissue Marketing Strategy Award**  
*The platform to showcase your innovative marketing campaign for a single tissue product!*

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*Tissue World Miami Gala Dinner -  
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For more details on entry  
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